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ABSTRACT

The Washington State Council for Postsecondary Education was required to examine the educational functions and the administration of the Joint Center for Graduate Study (JCGS), Richland, and also upper-division educational services to the Tri-Cities area of Richland, Pasco, and Kennewick, Washington, by Washington State Senate Resolution 1975-130 and House Resolution 75-49. Part 1 of the report describes the Tri-Cities area, discusses post secondary programs locally available, explores the level of educational participation and attainment of the community, considers the evidence of local interest in upper-division offerings, and discusses some alternative mechanisms for coordinating upper-division offerings. Part 2 discusses the administrative structure of functions of the Joint Center for Graduate Study, and traces the development of the center from the General Electric School of Nuclear Engineering. Part 3 presents conclusions and makes 11 recommendations pertaining to the post secondary needs of the Tri-Cities. Appended material includes: texts of HR 75-49 and SR 1975-130; the complete text of "Administrative Organization and Operating Agreement: The Joint Center for Graduate Study (1973)"; listings of businesses, post secondary institutions, agencies, and individuals providing assistance and information. (LH)

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POSTSECONDARY EDUCATION IN THE TRI-CITIES:

A REPORT

Related To

SENATE RESOLUTION 1975-130

And

HOUSE RESOLUTION 75-49

March, 1976

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INTRODUCTION

This report is divided into three parts. Part I describes the Tri-Cities area, discusses postsecondary programs locally available, explores the level of educational participation and attainment, considers the evidence of local interest in upper-division offerings, and discusses some alternative mechanisms for coordinating upper-division offerings. Part II discusses the administrative structure and functions of the Joint Center for Graduate Study at Richland. Part III presents conclusions and makes recommendations for change.

Senate Floor Resolution 1975-130 (SR1975-130) directs the Council for Postsecondary Education to examine the educational functions of the Joint Center for Graduate Study, including but not limited to:

(1) the local need for postsecondary education at the upper-division undergraduate level;

(2) alternative means and mechanisms for meeting those educational needs;

(3) the resource implications of those alternatives;

(4) the impact of the Center's functions on other postsecondary institutions in the state;

(5) the impact of alternative administrative structures on the Center's ability to fulfill its designated educational functions;

(6) the joint Federal-state role in support of the Center's educational functions.

House Floor Resolution 75-49 (HR75-49) directs the Council for Postsecondary Education to make a thorough examination of the manner in which the Joint Center for Graduate Study is administered and to conduct hearings in the Tri-Cities area and solicit the opinions of past and present faculty, administrators, and students of the Center and of other interested citizens.

Both resolutions refer to the Joint Center for Graduate Study at Richland. But the House Resolution is confined to JCGS matters

while the Senate Resolution includes the more general matters involved in upper-division service to the Tri-Cities. (See Appendix A for the texts of both resolutions.)

PART I:

THE TRI-CITIES AND

POSTSECONDARY EDUCATION

CHARACTERISTICS OF THE TRI-CITIES

Emergence of the Tri-Cities:

Settlement of the Tri-Cities area began in the 1880's. With the extension of the Northern Pacific Railway to Pasco in that decade, the area began to grow as a transportation center for the Mid-Columbia Basin's developing agricultural economy. Understandably, Pasco grew most quickly, followed by Kennewick with its food processing industry. Richland was to remain the smallest of the three communities until the 1940's.

In 1942, the Hanford area, northwest of Richland, was chosen by the U.S. Government as the site for construction of nuclear reactors to generate plutonium-239 for use in nuclear warheads as part of the Manhattan Project. The urgency of the need for personnel to construct and operate the project contributed to an abrupt population growth in the three cities. Richland, the nearest of the three cities to the Hanford site, was the most profoundly affected by the initial plutonium-production project and the subsequent development of related research activities. Richland's 1950 population was 90 times its population of 1940, and it surpassed the combined populations of Pasco and Kennewick.

The Tri-Cities' population continued to grow during the 1950's with the evolving projects related to plutonium production and nuclear research. In 1964, the government, stockpiled with plutonium from Hanford and other production sites, began to implement cutbacks in its production program. In anticipation of the inevitable reduction of production activities at Hanford, General Electric withdrew as primary contractor to the Atomic Energy Commission (AEC) for the operation of the Hanford Project, and the functions formerly performed by G.E. were subsequently assigned, as separate AEC contracts, to a number of corporations.

In this process of diversification, corporations competed for the award of an AEC contract by pledging to bring to the area some activity or development beyond the contracted function. This

diversification moderated the impact of production cutbacks by broadening the economic base of the area and supplementing existing research functions with non-AEC research. Still, the late 1960's and early 1970's were a time of some retrenchment for the area.

The future of the Tri-Cities area is closely linked to nuclear and other energy research activities, as well as to agriculture. In view of these enterprises' importance to the nation, the Tri-Cities should continue to grow. Some major facets of this growth are examined in the sections that follow.

Population:

Historically, Benton and Franklin Counties', and the Tri-Cities', population growth has been closely linked to the region's economy. The agricultural economy that dominated until 1940 supported a relatively small population, but this changed rapidly during the 1940's with development of the Hanford Project. (Table I points out these changes.)

The two counties' populations more than tripled during the 1940's; approximately one-half of this growth took place in Richland. During the decade of the 1950's, Benton and Franklin Counties' combined populations grew more than 30 percent, with both Pasco and Kennewick expanding more than Richland.

The decrease in Federal construction and plutonium production that occurred in the mid-1960's led to a lessening of population growth rates. At present, this growth rate has stabilized and is projected to increase slightly during the 1980's. Continued expansion in the industrial and agricultural sectors of the region's economy will keep the population of Benton and Franklin Counties on the increase during the remainder of this century. (See Figure I.)

The two counties' populations were estimated to total 100,000 in 1975. By the year 2000, that number is expected to increase to 121,800 (though this projection may be too low). According to the State Office of Program Planning and Fiscal Management (OPPFM), the two counties will rank twelfth and thirteenth among all Washington

TABLE I

HISTORICAL AND PROJECTED POPULATION TRENDS FOR
BENTON AND FRANKLIN COUNTIES AND THE TRI-CITIES AREA[1]

	Actual				Projected				
	1940	1950	1960	1970	1975	1975*	1980	1990	2000
Benton	12,053	51,370	62,070	67,540	67,750	73,300	71,970	81,300	87,600
Franklin	6,307	13,563	23,342	25,816	25,990	26,700	27,610	31,350	34,200
TOTAL	18,360	64,933	85,412	93,356	93,740	100,000	99,580	112,650	121,800
Kennewick	1,918	10,106	14,244	15,212	**	18,253	18,102	21,541	25,634
Pasco	3,913	10,228	14,522	13,920	**	14,450	16,565	19,712	23,457
Richland	247	21,809	23,548	26,290	**	28,600	28,393	30,664	33,117
TOTAL	6,078	42,143	53,661	56,529	**	61,303	64,300	73,306	83,764

[1] U.S. Census of Population, 1940-1960, and State of Washington Office of Program Planning and Fiscal Management's "Interim Population Projections to Year 2000 by County" (October, 1972), as reported in Washington Public Power Supply System Nuclear Projects 1 and 4, Woodward-Clyde Consultants, April, 1975.

*This column is from State of Washington Population Trends: 1975. As can be seen from Benton and Franklin Counties' total, present estimated population (for 1975) is outstripping the previously projected population for this year.

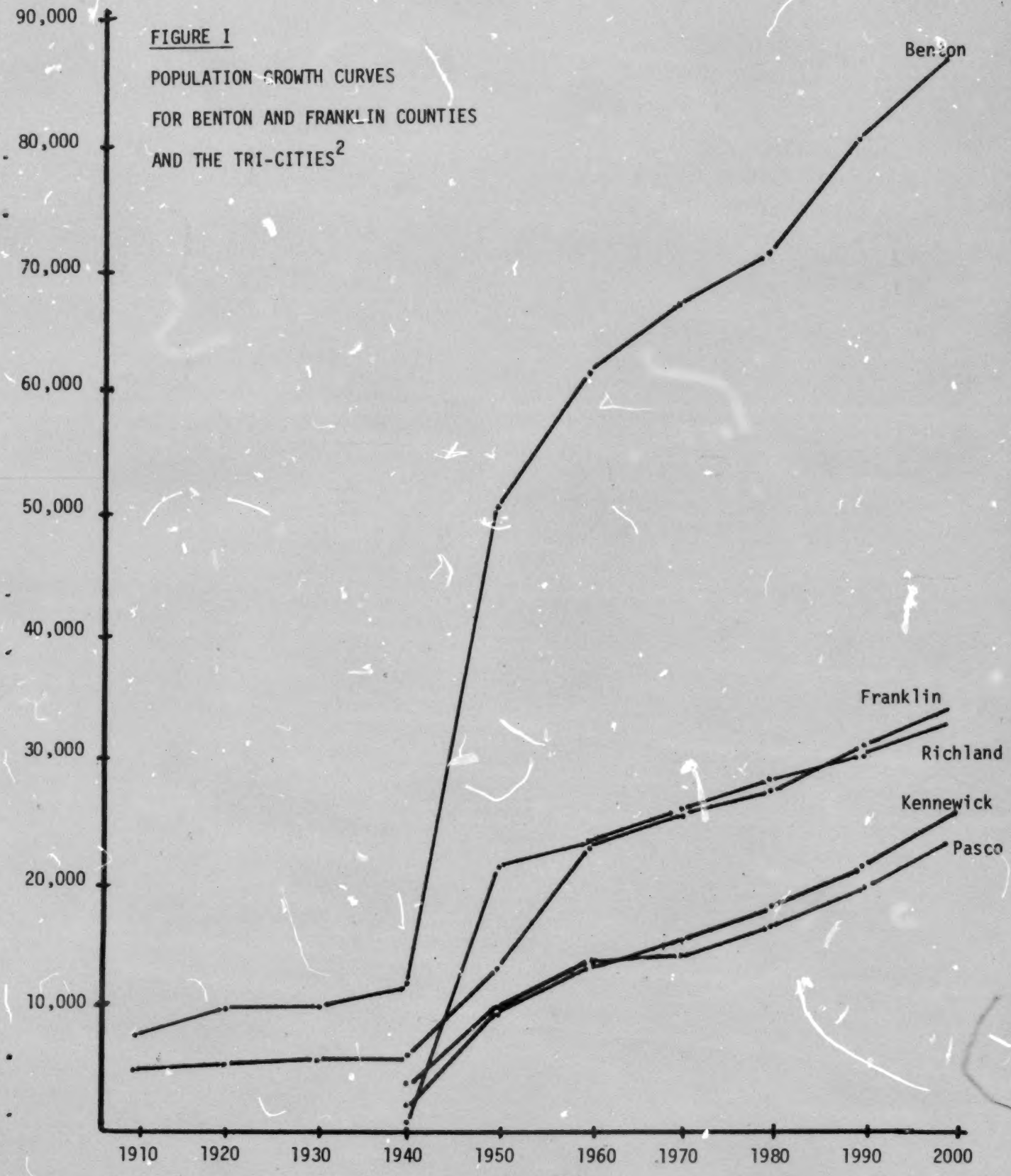
**Woodward-Clyde Study did not provide this data.

FIGURE I

POPULATION GROWTH CURVES

FOR BENTON AND FRANKLIN COUNTIES

AND THE TRI-CITIES[2]



[2] Ibid. Woodward-Clyde Consultants. Also, State of Washington Population Trends 1975. Also, 1970 Census Data Book, Vol. I, State of Washington, March, 1972.

counties in relative rate of growth through the remainder of this century.

Income and Employment:

The average personal income of Benton and Franklin County residents has steadily increased over the years and continued increases in per capita income are projected to the end of this century. (See Table II.)

TABLE II

PROJECTED PERSONAL INCOME: BENTON AND FRANKLIN COUNTIES[3]

(In Thousands of 1967 Dollars)

	1980	1985	1990	2000	2020
Total Personal Income	484,600	568,300	666,400	942,900	1,735,200
Per Capita Income	4.6	5.3	6.0	8.0	13.2

Prior to 1943, employment in Benton and Franklin Counties was fully dependent upon the fortunes of the area's agricultural economy. Since that time, growth and diversification of the Hanford Reservation's related industries have contributed extensively to area employment opportunities. Employment in the two-county area totalled 41,720 in 1974. (See Table III.)

Total unemployment, due to plutonium production cutbacks and other causes, rose to a peak of 12.2 percent in 1971. However, in the last two years unemployment has returned to pre-1970 levels.

The current and projected growth of total employment is due in large part to several major construction projects either planned or

[3] Ibid, Woodward-Clyde.

TABLE III

EMPLOYMENT DATA FOR BENTON AND FRANKLIN COUNTIES [4] AND EMPLOYMENT PROJECTIONS FOR THE BI-COUNTY AREA

	1960	1965	1970	1971	1972	1973	1974	1980	1985	1990	1995	2000
I. Civilian Labor Force	32,100	34,100	40,260	41,240	41,390	42,180	44,700	--	--	--	--	--
II. Total Employment	30,500	32,100	36,740	36,220	37,180	38,430	41,720	43,900	45,400	47,000	51,900	58,000
A. Agricultural	6,000	5,900	7,850	7,980	8,050	8,170	*	--	--	--	--	--
B. Non-Agricultural	24,500	26,200	28,890	28,240	29,130	30,260	*	--	--	--	--	--
1. Manufacturing	8,800	6,600	5,530	5,250	5,340	5,670	*	--	--	--	--	--
2. Non-Manufacturing	15,700	19,600	23,360	22,990	23,790	24,590	*	--	--	--	--	--
III. Total Unemployment	1,600	1,900	3,520	5,020	4,210	3,750	2,980	--	--	--	--	--
IV. Unemployment Rate	5.0	5.6	8.7	12.2	10.2	8.9	6.7	--	--	--	--	--

[4] Ibid, Woodward-Clyde.

*Changes in accounting procedures make these figures unobtainable.

currently underway in the Tri-Cities area. These include Washington Public Power Supply System's three nuclear power plants and the Energy Research and Development Administration's Fast Flux Test Facility. While the construction of these facilities will be completed for the most part by 1980, the operation phases of these projects--plus other projected construction projects--promise continued expansion of employment opportunities in the Tri-Cities area.

The Richland Operations Office of the Federal Energy Research and Development Administration (ERDA), which replaced the AEC, lists a total of 10,436 employees at the Hanford Project's seven major companies as of March, 1975. (See Table IV.) These employees comprise about one-third of Benton and Franklin Counties' combined non-agricultural work force.

Educational Attainment:

Data from the 1970 Census* (See Table V) indicate that the percentages of Benton and Franklin County residents (25 years and older) who have completed high school and one to three years of college are generally comparable with the statewide average both for men and for women. Separating the two, while the college completion rate for Benton County women is the same as the statewide average for women, the completion rate for Benton County men is some thirty percent higher than the statewide average for men.

In general, data on Benton County completion rates are confounded by the influx of highly-educated technical personnel to the area. The Franklin County data are less affected by this migration effect and could be expected to correspond more closely to the educational attainment patterns of people who grew up in Benton and Franklin Counties. As mentioned earlier, Franklin County completion rates for high school and one to three years of college compare favorably with the statewide average. However, the college completion rates for Franklin County residents fall short of the statewide average in the case both of women (12 percent below) and of men (26 percent below).

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*The most recent data available regarding levels of educational attainment.

TABLE IV

HANFORD PROJECT PERSONNEL BY JOB AND NUMBER [5]

Production and Related	1,818	(17.4%)
Clerical	1,263	(12.1%)
Technicians	780	(7.5%)
Executive, Administrative, and Professional	3,297	(31.6%)
Scientists and Engineers	1,212	(11.6%)
Other	2,066	(19.8%)
TOTAL	10,436	100.0%

[5] Information received from the Richland Operations Office of the U.S. Energy Research and Development Administration. Current as of March, 1975.

TABLE V

PERCENTAGE OF BI-COUNTY RESIDENTS 25 YEARS AND OVER COMPLETING VARIOUS LEVELS OF FORMAL EDUCATION (1970) [6]

	Total State	Benton	Franklin	
High School or More	64.5%	69.7%	65.7%	Women
	62.4%	68.1%	62.2%	Men
1-3 Years of College	14.8%	16.8%	15.6%	Women
	14.2%	14.3%	14.1%	Men
4 years of College or More	9.9%	9.9%	8.7%	Women
	15.7%	20.5%	11.6%	Men

[6] Ibid. U. S. Department of Commerce. Tables 51 and 120.

Though completion rates are but an indirect measure of service to an area, affected as they are by migration into and out of the area, it is instructive to compare the data for Benton and Franklin Counties with those of other population centers in the state.

In 1970, Washington State had three major population centers within its borders that were large enough to warrant their being designated "standard metropolitan statistical areas" (SMSA's), plus a fourth center that overlapped into Oregon. These four SMSA's were as follows:

-- Seattle-Everett SMSA (King and Snohomish Counties)
-- Tacoma SMSA (Pierce County)
-- Spokane SMSA (Spokane County)
-- Portland, Oregon-Washington SMSA (Clark County)

Since that census year, two more SMSA's have been designated, as follows:

-- Yakima SMSA (Yakima County)
-- Richland-Kennewick SMSA (Benton and Franklin Counties)

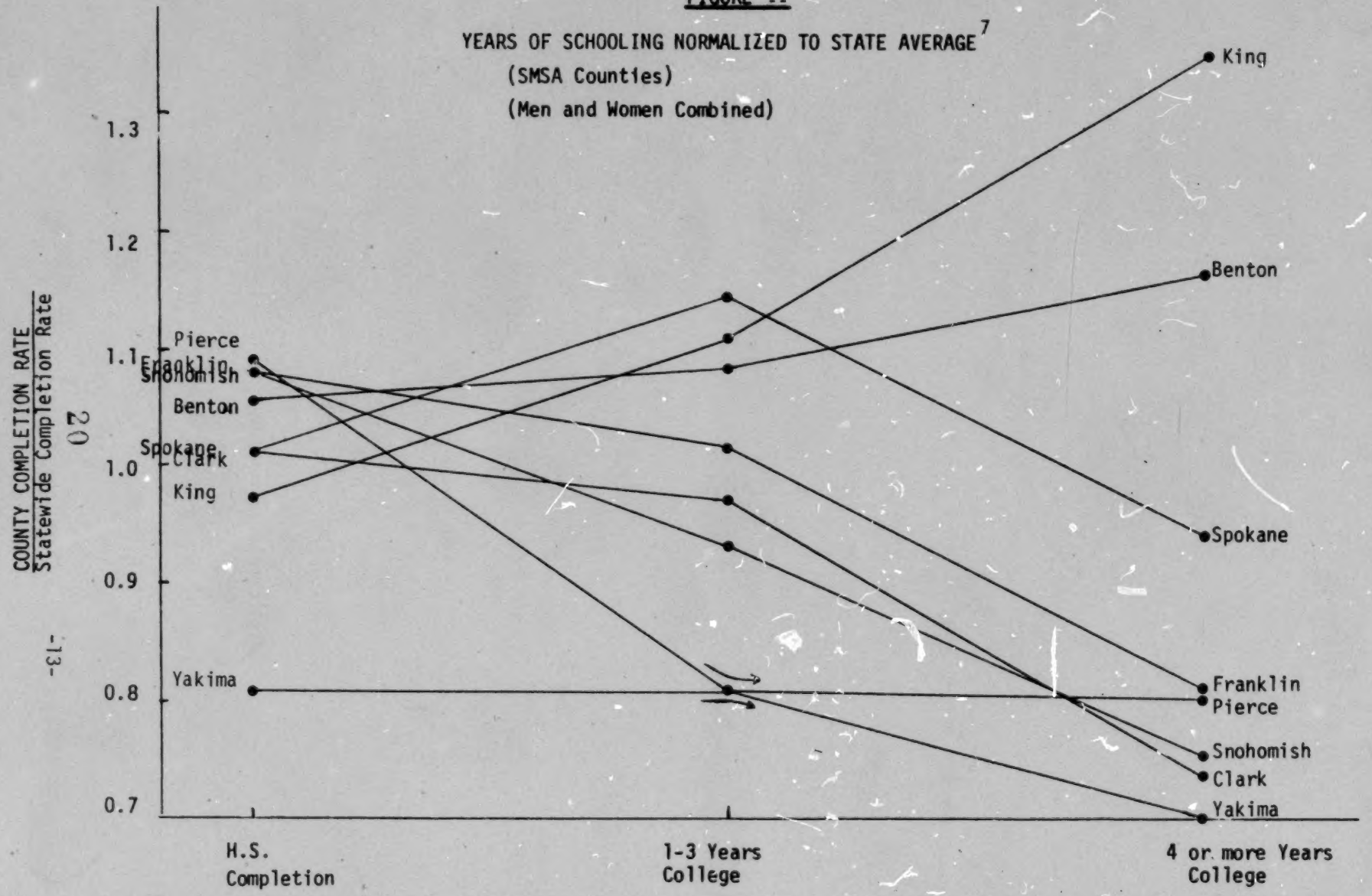
Figure 2 compares the completion rates for these SMSA counties normalized to statewide averages (a normalized rate greater than 1.0 represents a completion rate greater than the statewide average). In this comparison, Benton and Franklin Counties' rates are above the state average and above more than half of the other SMSA counties on all points but four-year completion for Franklin County. The four-year completion rate for Benton County residents is exceeded only by that for King County.

FIGURE II

YEARS OF SCHOOLING NORMALIZED TO STATE AVERAGE[7]

(SMSA Counties)

(Men and Women Combined)



[7] 1970 Census of Population, (Vol. 1, Part 49), U.S. Department of Commerce. January, 1973. Tables 51 and 120. The state average is represented by the figure "1.0" on the left side of the figure.

POSTSECONDARY EDUCATION IN THE TRI-CITIES

Available Educational Services:

Residents of the Tri-Cities have general access to a variety of postsecondary educational programs. A local community college, a graduate center, and several proprietary schools offer the majority of programs in the Tri-Cities. Central Washington State College, Eastern Washington State College, and Washington State University provide a number of courses and programs directed to the needs of several interest groups within the local population.

Community College District #19 (Columbia Basin College) is located in Pasco. The college was originally a vocational-technical institute maintained by the Pasco School District. This institute's occupational education programs, together with its adult night school programs, were integrated when the college came into being under authorization of the State Board of Education in 1955. CBC took on its current statutory functions when the 1967 legislature passed the State's Community College Act.

The community college district covers Benton and Franklin Counties. Columbia Basin College operates within standards set both by the State Board of Community College Education and by the college's Board of Trustees.

CBC is accredited and offers an academic transfer program, vocational-technical programs, and community service programs. (See Table VI.) The academic transfer program, which culminates in conferral of the Associate Degree in Arts and Science, provides the first two years of college education toward a baccalaureate degree. The vocational-technical programs, successful completion of which results in the student's receiving either a Certificate or an Associate Degree in Applied Science, are designed for persons who plan to enter a field of work after one or two years of college. Community service programs and courses are offered for local citizens who pursue personal enrichment or recreational activities.

TABLE VI

POSTSECONDARY DEGREE AND CERTIFICATE PROGRAMS OFFERED

IN THE TRI-CITIES AREA

BY LOCALLY BASED INSTITUTIONS [8]

	COLUMBIA BASIN COLLEGE	JOINT CENTER FOR GRADUATE STUDY
AGRICULTURE & NATURAL RESOURCES		
Agri-Chemical Business	AAS**	
ARCHITECTURE & ENVIRONMENTAL DESIGN		
AREA STUDIES		
BIOLOGICAL SCIENCES		
Biology+	AAS*	MS
Botany	AAS*	
Zoology	AAS*	
BUSINESS & MANAGEMENT		
Business Administration	AAS* AAS**	MBA
Farm Management	AAS**	
Mid-Management	Certificate, AAS**	
Secretarial Studies	AAS** (a)	
COMMUNICATIONS		
Journalism	AAS*	
Industrial Communications	AAS**	
COMPUTER & INFORMATION SCIENCES		
Computer Science+	AAS**	MS
EDUCATION		
Education+	AAS*	MEd (b)
Health Education	AAS*	
Physical Education	AAS*	
Early Childhood Education	Certificate, AAS**	

[8] Compiled from institutional catalogues, and through discussions with institutional administrators.

	COLUMBIA BASIN COLLEGE	JOINT CENTER GRADUATE STUDY
ENGINEERING		
General Engineering	AAS*	
Ceramic Engineering+		MS#, PhD#
Chemical Engineering		MS, PhD#
Electrical Engineering+		MS
Engineering Science		PhD#
Material Science & Engineering+		MS
Nuclear Engineering+		MS, PhD#
Engineering Technology	AAS**	
FINE & APPLIED ARTS		
Art	AAS*	
Music	AAS*	
Industrial Drawing	AAS**	
Industrial Graphics	AAS**	
FOREIGN LANGUAGES		
German	AAS*	
Spanish	AAS*	
HEALTH PROFESSIONS		
Nursing	AAS* AAS**	
Licensed Practical Nursing	Certificate	
Radiological Sciences		MS
LAW		
LETTERS		
Literature	AAS*	
Speech	AAS*	
Creative Writing	AAS*	
Philosophy	AAS*	
Composition	AAS*	
LIBRARY SCIENCE		
Librarianship+		MLib.#, MLaw Lib.#
MATHEMATICS		
Mathematics+	AAS*	MS#
Industrial Mathematics	AAS**	

	COLUMBIA BASIN COLLEGE	JOINT CENTER FOR GRADUATE STUDY
MILITARY SCIENCE		
PHYSICAL SCIENCES		
Physics+	AAS*	MS#
Chemistry+	AAS*	MS#
Astronomy	AAS*	
Geology	AAS*	
Industrial Sciences	AAS**	
PSYCHOLOGY		
Psychology	AAS*	
PUBLIC AFFAIRS & SERVICES		
Law Enforcement	AAS**	
SOCIAL SCIENCES		
Anthropology	AAS*	
Economics	AAS*	
History	AAS*	
Geography	AAS*	
Political Science	AAS*	
Sociology	AAS*	
THEOLOGY		
INTERDISCIPLINARY STUDIES		
General Studies	Certificate	
VOCATIONAL, TECHNICAL, INDUSTRIAL		
Automotive Technology	AAS**	
Automotive Body Technology	AAS**	
Carpentry	Certificate	
Construction Technology	AAS**	
Diesel Technology	AAS**	
Electronics Technology	AAS**	
Fire Science	AAS**	
Machine Technology	AAS**	
Real Estate	Certificate, AAS**	

	COLUMBIA BASIN COLLEGE	JOINT CENTER FOR GRADUATE STUDY
Vocational, Technical, Industrial cont.		
Welding Technology	Certificate, AAS**	
Stenographer	Certificate	
Receptionist	Certificate	

*Associate of Arts and Sciences degree (transfer). This is a general education degree that is granted without major field designation to transfer program graduates at CBC.

**Associate of Applied Science (terminal). This is an occupational degree that is granted with major field designation to occupational graduates at CBC.

#This degree cannot be completed at the JCGS. Either courses must be taken at the sponsoring institution's main campus, or residency requirements of the sponsoring institution must be met.

+Upper-division undergraduate courses are offered at the JCGS in this subject matter field. Beginning with fall term, 1975, undergraduates not matriculated at one of the sponsoring institutions may enroll in these courses for credit if a minimum of 4 graduate students enroll first.

(a) Three options include: executive, medical, and legal secretary.

(b) Specialty areas include: guidance and counseling, administration, curriculum, elementary education. Also available: fifth year certification & administrative credentials.

The college's fall, 1975 enrollment totalled 4,792 full- and part-time students. The academic transfer program currently enrolls about 45 percent of CBC's students, the vocational-technical program approximately 54 percent, and the community services program .05 percent. Most of CBC's transfer program graduates enroll at WSU, CWSC, or EWSC.

There is no locally-based institution that offers baccalaureate degrees. The nearest public four-year institution is over 100 miles away. However, the Joint Center for Graduate Study at Richland offers a range of master's and doctoral programs in nuclear-related fields, Engineering, Business, Education, and Librarianship (see Table VI), plus supporting courses in several related academic fields at the graduate and upper-division undergraduate levels. The JCGS differs from Columbia Basin College and other public and private, two- and four-year institutions in the state because it does not have its own governing Board of Regents or Trustees, and does not offer its own degrees or hire its own faculty. The JCGS is an off-campus facility which offers graduate programs sponsored by three universities: The University of Washington, Washington State University, and Oregon State University. The Center's present organizational structure and academic and administrative practices will be discussed in greater detail later in this report.

The JCGS originally began as the General Electric School of Nuclear Engineering in 1948, two years after General Electric took over operation of the Hanford Project. In 1958, the UW, WSU, OSU, and University of Idaho agreed to assume the School's administration at the request of General Electric. The University of Washington and Washington State University now jointly administer the Center (which was renamed the Joint Center for Graduate Study in 1969 to reflect that fact), while Oregon State University sponsors one academic program and has representation on the JCGS's Academic Council.

The Center's Winter, 1976 headcount enrollment is 289. While its current annual report notes that "all residents of the Columbia Basin area are equally welcome as potential graduate students," the

majority of the Center's students have historically been, and continue to be, Hanford contractors' employees (though a sizeable number of area residents have enrolled in the Center's Education and Librarianship programs).

As noted earlier, the Center is an off-campus facility of the three sponsoring universities, offering "external degree programs" (though some of these require coursework at the sponsoring campuses). Washington State University, Eastern Washington State College, and Central Washington State College currently offer a limited array of external programs in the Tri-Cities outside the auspices of the JCGS. (See Table VII.) Most of these programs' curricula require degree-seeking students to meet on-campus residency requirements of the sponsoring institution, or when there are no explicit residency requirements, students may be effectively required to take on-campus courses that the institution cannot afford to offer in the Tri-Cities.

Washington State University provides three graduate level external offerings in the Tri-Cities, though the degree or certificate associated with each cannot be earned solely by attending program activities available in the Tri-Cities. Students who take part in the internships in school administration, the performance-based teacher education seminars, or the internships in guidance and counseling, must attend the Pullman campus to complete other program requirements.

Similarly, at the undergraduate level, WSU offers a number of Humanities, Sciences, Education, and Business related courses through its Office of Continuing University Studies. WSU's University Senate last spring voted to eliminate the institutional residency requirement; this, in theory, would allow Tri-Citians to complete WSU's baccalaureate requirements without leaving the immediate area. However, because continuing education at WSU is funded on a different basis than the institution's regular instructional program, the Tri-Cities offerings must pay for themselves. Thus, the range of advertised offerings is narrow and limited to those courses that are likely to draw large numbers of students. Tri-Cities students who enroll in undergraduate offerings sponsored by WSU's Office of Continuing University Studies must still attend the Pullman campus if they wish to complete a WSU degree.

TABLE VII

PROGRAMS OFFERED IN THE TRI-CITIES AREA BY INSTITUTIONS BASED ELSEWHERE IN THE STATE [9]

SPONSORING INSTITUTION	NATURE OF PROGRAM	DEGREES OFFERED, IF ANY
CENTRAL WASHINGTON STATE COLLEGE	Students and returning teachers can earn up to 45 hours of upper-division credit in Early Childhood Education.	None solely at Tri-Cities locations.
CENTRAL WASHINGTON STATE COLLEGE	Began in fall, 1975, upper-division courses of a specialized, liberal arts nature will be offered through CWSC's inter-departmental major program.	BA and BS
CENTRAL WASHINGTON STATE COLLEGE	Students can earn degree credit through a number of courses in Education, Psychology, Physical Education, and Special Education.	None solely at Tri-Cities locations.
EASTERN WASHINGTON STATE COLLEGE	A variety of social science and education courses oriented toward the needs of local school district personnel.	None solely at Tri-Cities locations.
WASHINGTON STATE UNIVERSITY	Upper-division courses in: Business, English, Math, Psychology, and Sociology.	None solely at Tri-Cities locations.
WASHINGTON STATE UNIVERSITY	Performance-based teacher education seminars.	None solely at Tri-Cities locations.
WASHINGTON STATE UNIVERSITY	Internships in school administration.	None solely at Tri-Cities locations.
WASHINGTON STATE UNIVERSITY	Undergraduate program to train persons to work in community alcoholism centers.	Certificate in Alcohol Addiction and Abuse.
WASHINGTON STATE UNIVERSITY	Internships in Guidance and Counseling.	None solely at Tri-Cities locations.

[9] Compiled after conversations with administrators from the state's public four-year institutions, Columbia Basin College, and the Joint Center for Graduate Study.

The same holds true for students who enroll in Eastern's or Central's Continuing Education offerings in Education, Psychology, Physical Education, and Special Education. Though these courses are accepted for residence credit, the student presently lacks access to an adequate number of courses to complete a degree without moving to one of the two colleges' campuses.

Central also offers a program in Early Childhood Education. However, participants must fulfill a student teaching requirement as part of the program; because geographic alignments have been agreed upon between the state colleges' and universities' teacher education programs, such students must commute or move to the town of Sunnyside (about 39 miles from Richland) to complete the student teaching. CWSC's student teachers cannot teach in the Tri-Cities because that area is shared by EWSC and WSU for student teaching purposes. According to student teaching coordinators at each of the three campuses, program content differences and funding problems prohibit them from supervising one another's student teachers.

There are two programs that are exceptions to this pattern. First, WSU offers an undergraduate program to train persons to work in community alcoholism centers. Successful completion of the Tri-Cities program yields the student a Certificate in Alcohol Addiction and Abuse.

Second, last fall CWSC began an upper-division liberal arts program, the courses for which are being offered at Columbia Basin College. According to the administrator responsible for the program, fall and winter term enrollments have been strong, and Central plans to expand its offerings; however, this program is tentative and its long-term existence in the Tri-Cities will depend on the level of course enrollments. If it does continue, students will be able to earn a baccalaureate without leaving the Tri-Cities area.

The remainder of postsecondary programs in the Tri-Cities are those offered by privately owned proprietary schools. (See Table VIII.) Pasco has two aviation schools and a cosmetology school. Richland has a cosmetology school and an aviation school and Kennewick has a business college and a cosmetology school. These schools are approved

TABLE VIII

POSTSECONDARY TRAINING PROGRAMS OFFERED BY

PROPRIETARY SCHOOLS LOCATED IN THE TRI-CITIES AREA: [10]

AVIATION RELATED	BEAUTY RELATED	BUSINESS RELATED
Advanced Ground School	Cosmetology	Accounting
Commercial Flying School		Administrative Secretary
Flight Instructor (Basic & Instrument)		Automation Receptionist
Instrument Flying School		Bookkeeping Assistant
Multi-Engine Land Rating		Business Administration
		Clerk-Typist
		Executive Secretary
		Legal Receptionist
		Legal Secretary
		Management Trainee
		Administrative Assistant
		Medical Receptionist
		Medical Secretary
		Professional Receptionist
		Stenographic Secretary
		Transfer Secretary
		Travel Secretary

[10] As listed in the Directory of Colleges, Institutes, and Schools and Their Courses Approved for the Education and Training of Veterans, C.C.O.E., February 1, 1975.

by the Veteran's Administration and train people for occupations in which a bachelor's degree is not required.

Postsecondary Educational Needs and Interests:

The State of Washington has, for the most part, a fully-developed network of two- and four-year postsecondary institutions. Though there remain areas with low postsecondary service levels (i.e. participation rates), these are largely counties with low population densities which are distant from postsecondary campuses. Among the state's major population centers (SMSA's), the relative remoteness of Tri-Cities residents from on-campus upper-division offerings is the most clear-cut instance of a residual problem in postsecondary education delivery. (The deficiency in upper-division opportunities in Seattle and non-resident tuition and fee differentials at Oregon institutions for Clark County residents are less clear-cut but not necessarily less serious problems.)

As Table IX shows, of the six Standard Metropolitan Statistical Areas in the state only Clark County (Vancouver, Washington) compares with the Benton-Franklin County SMSA for isolation from Washington public four-year institutions, though the remoteness of Clark County from Washington colleges and universities is mitigated by the presence of nearby Oregon institutions, both public and private. The lack of local access to upper-division education in the Tri-Cities, moderated to some degree by the relative affluence and high educational attainment of adults attracted to the Hanford complex for employment, is reflected in comparisons of postsecondary educational participation among the populous counties of the state.

Table X illustrates the numbers of "locally-accessible FTE's" for the various SMSA counties. As shown by the second column of figures, the Tri-Cities is the only SMSA with no local access to public or private four-year institutions (and their upper-division offerings). While Yakima and Clark Counties have no four-year institutions within their boundaries, nearby institutions in both cases must be considered locally-accessible (notwithstanding the 37-mile

TABLE IX

POPULATION (1974) AND PROXIMITY TO PUBLIC FOUR-YEAR INSTITUTIONS FOR THOSE WASHINGTON COUNTIES THAT COMPRISE THE STATE'S STANDARD METROPOLITAN STATISTICAL AREAS[1]

County	1974 Population	Approximate Miles From County's Urban Center to Nearest Public 4-Year Institution
Spokane	296,500	15 (EWSC)
King	1,146,200	5 (UW)
Benton	69,800	110 (CWSC), 130 (EWSC)
Franklin	26,200	120 (CWSC), 120 (EWSC)
Yakima	145,200	40 (CWSC)
Pierce	411,000	30 (UW)
Snohomish	267,100	30 (UW)
Clark	140,300	100 (TESC)*

*Clark County's proximity to the public senior institutions in Portland (and the likely resultant four-year participation) is not accounted here.

[1] OPP&FM, State of Washington Pocket Data Book, 1974 , and "Washington State Highways." Washington State Highway Commission, 1973.

TABLE X

POSTSECONDARY STUDENT FTE'S AND POPULATION

IN SMSA COUNTIES (Fall 1974)[12]

SMSA	CC	4-Year	Total	FTE's 100 /Population
Yakima				
Public	2,843	(6,267)*	(9,110)	(6.27)*
Private	0	0	0	
TOTAL	2,843	(6,267)	(9,110)	(6.27)*
King-Snohomish				
Public	33,556	35,302	68,858	4.87
Private	0	5,780	5,780	
TOTAL	33,556	41,082	74,638	5.28
Spokane				
Public	10,053	6,168	16,221	5.47
Private	0	5,234	5,284	
TOTAL	10,053	11,452	21,505	7.25
Pierce				
Public	13,599**	0	13,599	3.31
Private	0	7,899	7,899	
TOTAL	13,599	7,899	21,498	5.23
Benton-Franklin				
Public	2,839	0	2,839	2.96
Private	0	0	0	
TOTAL	2,839	0	2,839	2.96
Clark				
Public	3,053	(***)	(3,053)	(2.18)***
Private	0	(***)	(0)	
TOTAL	3,053		(3,053)	(2.18)***

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*CWSC is adjacent Kittitas County, 37 miles from Yakima.

**Includes estimate of VTI enrollments.

***Both public and private four-year institutions are available in Portland, immediately across the state border from Vancouver and part of the same SMSA.

[12] SBCCE Operations Report #12, OPP&FM Higher Education Ernollment Projections, (HEEP)

commute from Yakima to CWSC and non-resident tuition and fees charged Clark County residents by Oregon institutions.

The extreme right-hand column of Table X gives the number of locally-accessible FTE's per hundred people for each of the SMSA counties. The lower the number, the lower the level of local service to the community. On this index to local service, the Tri-Cities appears to be far less well-served than the other population centers of the state. For example, Spokane County has fully twice as many locally-accessible FTE's in proportion to its population as has the Benton-Franklin County SMSA.

Table XI compares the SMSA's on levels of undergraduate participation in various types of postsecondary educational institutions. In this comparison, the Benton-Franklin County SMSA displays the highest participation rate (7.80), the highest community college participation rate (5.96), and a moderate four-year participation rate (1.84) despite its remoteness from the public four-year institutions.

Table XII compares educational attainment levels for residents (25 years and older) of the populous counties of the state. Only the King-Snohomish County area exceeds the Benton-Franklin County area in the percentage of residents with some postsecondary education. Spokane County has almost as high a percentage of residents with some postsecondary training as Benton-Franklin but a considerably smaller college completion fraction. Taken with the information in Table XI, Table XII demonstrates that educational attainment levels, by themselves, are not a dependable index to educational service, confounded as they are by the migration of highly-skilled persons for purposes of employment over and above the ffect of educational access for area residents.

Neither the high participation rates nor the high levels of educational attainment for the Tri-Cities can be taken at face value to indicate adequate educational access for residents of the area. Participation is to some degree determined by the size of the pool of potential participants. High school completion is a common prerequisite for college participation. For many students community

TABLE XI

COMMUNITY COLLEGE AND FOUR-YEAR INSTITUTION UNDERGRADUATE PARTICIPATION RATES AT WASHINGTON INSTITUTIONS FOR RESIDENTS OF THE SMSA COUNTIES OF WASHINGTON, FALL 1974 [13]

	(Enrollment From County) / (Population of County) UNDERGRAD. PARTICIPATION RATE				Enrollment / Population	
SMSA	Public 4-Yr.	Private 4-Yr.	All 4-Yr.	CC	Total	4-Yr. P.R. / C.C.P.R.
Yakima						
Headcount	1.47	0.17	1.65	2.70	4.35	0.61
King-Snohomish						
Headcount	1.87	0.28	2.15	4.05	6.20	0.53
Spokane						
Headcount	1.94	0.37	2.31	4.51	6.82	0.51
Pierce						
Headcount	1.08	0.50	1.58	3.33	4.91	0.47
Benton-Franklin						
Headcount	1.65	0.19	1.84	5.96	7.80	0.31
Clark						
Headcount	0.77	0.10	0.88*	3.71	4.59	0.24*

*The four-year institution participation rate for residents of Clark County does not reflect their likely-considerable recourse to Oregon institutions across the border in Portland. This information is not available.

[13] SBCCE, OPP&FM and Council for Postsecondary Education, individual four-year institutions' student origin information.

TABLE XII

EDUCATIONAL ATTAINMENT FOR ADULT RESIDENTS (25 or over) OF THE SMSA COUNTIES OF WASHINGTON (1970)[14]

	Highest Educational Attainment (%)			$\frac{\text{(4-Yr. P.R.)}^{*}}{\text{(1-3 Yr. Coll.)}}$ X100
	H.S. Compl.	1-3 Yr. Coll.	4 or More Yr. Coll.	
Yakima	29.4	11.7	8.6	14.1
King-Snohomish	36.3	15.8	16.0	13.6
Spokane	36.9	16.3	11.9	14.2
Pierce	38.9	11.8	10.1	13.4
Benton-Franklin	38.4	15.4	13.8	11.9
Clark	36.7	14.1	9.3	6.2**

*From TABLE XI.

**See Footnote TABLE XI.

[14] 1970 Census of Population (Vol. 1, Part 49), U.S. Department of Commerce. January, 1973. Tables 51 and 120.

college is the antecedent of upper-division work. The extreme right-hand columns of Tables XI and XII compare the SMSA counties on an index of four-year institution participation rate corrected, in two different ways, for the size of the pool of potential participants.

In Table XI the community college participation rate, a measure of the rate of input to the pool of potential participants in upper-division education, is used to correct the four-year institution participation rates for each SMSA. The resultant index to the fraction of potential participation realized is lowest for the Tri-Cities of all the SMSA's for which dependable four-year participation rates are available (see footnote, Table XI)--almost a factor of two below the index for the highest-ranking SMSA.

In Table XII the fraction of the adult population, 25 years and older, with one to three years of college is taken as an indication of the size of the pool of potential upper-division participants over and above the traditional college-age group. Using this indicator to correct the four-year institution participation rate yields another index to the fraction of potential participation realized for residents of each SMSA. Here again the Tri-Cities ranks below all other SMSA's for which dependable indices can be generated (Clark County is the exception).

Not all community college participants are transfer students and not all four-year institution participants are upper-division students, but indices which take account of the size of the eligible population supplement the data on raw participation rates and increase our understanding of educational service levels. While the Tri-Cities' SMSA ranks high in postsecondary participation and educational attainment, the lack of ready access to upper-division education and the deficiency in that level of service are reflected in measures of participation which take account of numbers eligible to participate.

The vigorous community college participation of Tri-Cities residents and the large proportion of the adult population with college experience short of completion are both indicative of a large pool of people eligible for upper-division participation. The presence

of this pool is further corroborated by the results of surveys of upper-division interest among Tri-Cities residents. Taken together, these indications of need and interest comprise a convincing argument for extending upper-division services to the Tri-Cities.

During the last decade, various groups in the Tri-Cities have made a number of efforts to bring a wider range of postsecondary services to their area. One of the early attempts, in 1966, was a proposal that a state college be located in the Tri-Cities. This proposal was submitted to the State's Temporary Advisory Council on Public Higher Education by the College/University Planning Committee of the Tri-Cities Nuclear Industrial Council. The proposal treated a large number of local factors quite broadly. Even though the 1966 proposal was ultimately tabled, it highlighted local interest in postsecondary education.

Three survey projects to determine the level of local interest in upper-division postsecondary education have recently been conducted in the Tri-Cities. Each was sponsored by a local group.

The first survey project was done in late 1973 under the auspices of the Advisory Committee of the Joint Center for Graduate Study. It consisted of three questionnaires similar to one another in content. The first two were administered by Columbia Basin College students using a combination of telephone and in-person interviews. One questionnaire was presented to a sample of the Tri-Citjes' general population, and the second covered a sample of the College's own students. The third questionnaire, a mail-out, was administered by Hanford Project contractors to their employees.

In all, 8,301 questionnaires were distributed and 2,696 were returned, for a response rate of 32.5%. (Table XIII summarizes the responses.) Of the 2,696 respondents, 1,598 indicated they were interested in taking upper-division courses at the JCGS. Of these, 1,008 respondents, or 63.1%, stated they were interested in obtaining a four-year college degree.

Among the respondents, 2,135 chose to state their area of subject matter interest. Of these, 780 listed Liberal Arts, 604 indicated Science, and 536 indicated Engineering.

TABLE XIII

RESULTS OF SURVEY PROJECT CARRIED OUT
BY THE JCGS ADVISORY COMMITTEE IN LATE 1973 [15]

QUESTIONS		RESULTS
1. Are you interested in taking upper-division (junior, senior) courses if available at the Graduate Center in Richland?	Yes:	1,598 (59.3%)
	No:	1,098 (40,7%)
	Total:	2,696
2. If you answered yes to #1, what is your area of interest? (Check one)		
a. Science		604 (28.3%)
b. Engineering		536 (25.1%)
c. Liberal Arts		780 (36.5%)
d. Other (Please specify)		215 (10.1%)
	Total:	2,135
3. If you answered yes to #1, are you interested in obtaining a 4-year college degree?	Yes:	1,008 (46.2%)
	No:	1,176 (53.8%)
	Total:	2,184
4. What is your present level of education? (Check one)		
a. High school graduate		542 (18.9%)
b. One or two years of college		933 (32.6%)
c. Upper-division undergraduate (3 or 4 years of college)		200 (7.0%)
d. Associate degree		164 (5.7%)
e. BA or BS degree		442 (15.5%)
f. Master's degree		272 (9.5%)
g. Ph.D. degree		142 (5.0%)
h. Graduate		89 (3.1%)
i. Other		78 (2.7%)
	Total:	2,863

NOTE: The following samples of each category of interest indicate:
Science: Of 174 answering yes to question #1, 76 indicated an interest in an undergraduate degree while 98 indicated no interest.
Engineering: Of 237 answering yes to question #1, 114 indicated an interest in an undergraduate degree while 123 indicated no interest.
Liberal Arts: Of 343 answering yes to question #1, 195 indicated an interest in an undergraduate degree while 148 indicated no interest.

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[15] Received from Dr. John Cronland, Director of the Office of Continuing University Studies at WSU. Correspondence sent him by the Advisory Committee of the JCGS.

The second survey project was completed during the spring of 1975 by a number of Hanford Project employers. Though several survey instruments were used, there were only slight variations between them. Similar data from each were tabulated after responses had been gathered among employees at Westinghouse Hanford, Battelle Northwest, the Federal Energy Research and Development Administration, the Hanford Environmental Health Foundation, the Computer Sciences Corporation, Burns and Roe, and the Atlantic Richfield Company. Also included in the tabulations were responses to a similar questionnaire published in the Tri-City Herald.

A composite report of these survey instruments is as follows. About 3,000 questionnaires were distributed and 479 people responded, for an approximate response rate of 16%. Of these respondents, 402 indicated an interest in upper-division courses, and 359 stated they were interested in earning a baccalaureate degree of some kind. Of these, two hundred indicated they would not be able to complete their degree if they had to leave the area to attend some program on campus.

There were a variety of responses to a question regarding the respondents' primary areas of interest. The four most popular areas of interest, and the numbers of people indicating each were:

Business Administration	177	Liberal Arts	43
Engineering	136	Science	34

Respondents indicated much less interest in 28 other subject matter areas ranging from the broadly designated category of "Education" to the more narrowly designated category of "Fine Arts Theatre/Dance."

The third major survey project was completed in October, 1975 under the aegis of a variety of local service groups. Of the 444 people who responded to a mail-out questionnaire, 66 percent (293 persons) indicated they were interested in pursuing upper-division courses in the Tri-Cities. Of these 293 persons, 61 percent stated that they were interested in pursuing a degree.

The four academic fields most often cited as being of interest to respondents were:

Liberal Arts	92	Engineering	40
Business	86	Science	33

These results closely parallel those of the two earlier survey projects summarized above.

Each of the three major survey projects possesses some shortcomings. For example, each one had a fairly low response rate. Also, the earliest set of three surveys, done under the auspices of the Advisory Committee to the JCGS, was administered in different ways by different groups. CBC students, under their instructor's supervision, conducted telephone and in-person interviews; Hanford contractors used a mail-out questionnaire which respondents sent back to the JCGS for processing.

The study done this year by Hanford contractors was not conducted in a carefully-controlled manner. Extra copies of the questionnaire were given to employees to take home to interested family members. Also, a copy of the questionnaire was published in the Tri-City Herald and citizens were invited to respond, as some did.

The claim could be made that none of these projects' samples reflects (in a statistically valid manner) the views of the populations they purport to represent. However, without trying to generalize their results to the Tri-Cities' total population, the numbers of positive responses that were generated indicate a sizeable interest in pursuing locally offered upper-division studies. Respondents expressed strong interest in upper-division Business, Engineering, Science, and Liberal Arts.

As noted earlier, two public meetings were held in the Tri-Cities for the purpose of gathering citizen opinion and suggestions regarding upper-division needs of the Tri-Cities. At the first meeting, on October 9 (attended by only 21 persons), participants aired a number of concerns and offered numerous suggestions. First, they felt that the available external offerings provided by outside institutions were too unstable. Residents could not count on a given program's presence from quarter to quarter. If too few people enrolled, then the sponsoring institution cancelled the offering, regardless of whether it was part of a sequence or not.

This occurrence can have two equally deleterious effects, each of which helps create a self-fulfilling prophecy. When students

feel they cannot count on the longevity of a given course of study, they do not turn out in numbers adequate to sustain it. The institutions, then, may perceive the lack of enrollment as an indication of weak local interest and be more reluctant to provide services in the future.

One woman noted that she and thirteen other people had enrolled in an accounting class which was to be the first of a three-course sequence. The class was conducted the first term with nine students (after four withdrawals), but when ten students registered the following term, the course was cancelled.

After the meeting, Council staff telephoned the administrator at the institution sponsoring the accounting sequence. The administrator pointed out that the class had been permitted to continue the first quarter though there were approximately half the enrollments required to allow the course to pay for itself. When this enrollment pattern repeated itself the second quarter, he felt that his responsibility required him to cancel the course. Though this action caused trouble for the students who had committed their time and money, cancellation was necessary given the fact that the sponsoring institution's continuing education offerings must be run on a self-sustaining basis. Similar incidents were cited to Council staff a number of times during the course of this study. The Council for Postsecondary Education, in its "Planning and Policy Recommendations for Washington Postsecondary Education, 1976-82 (Draft)," makes the following recommendation (current as of 12-10-75) :

> The Council for Postsecondary Education recommends that all instructional offerings which are part of a course of studies leading to an occupational objective or creditable toward a degree or other formal award the institution is authorized to confer, including creditable activities currently classified as extension and correspondence, should receive state financial support. Levels of support should be determined by the same assumptions governing support of regular instruction, should account for difference in cost patterns and should be identifiable as a separate budget element. The Council for Postsecondary Education will make this recommendation to the Governor and legislature for implementation in the 1977-79 budget cycle.

If this particular recommendation is implemented, problems of the kind described will be lessened.

Participants felt that there needed to be more coordination of local offerings than at present. They asserted that the current array of external offerings lacked unity. That is, the majority of these courses and programs are aimed at specific interest groups to assure an adequate enrollment level. They do not complement each other by building toward a locally available external baccalaureate degree (which the group felt would be of interest to a large number of area residents).

Finally, people at the meeting felt it essential that there be some agent to coordinate upper-division offerings, assess the local need for courses and programs, negotiate with institutions to provide these programs, arrange for use of necessary physical facilities, and coordinate all upper-division offerings to minimize transfer of credit problems and otherwise facilitate students' movement between institutions and programs.

The second public meeting (held in Pasco on November 6) was part of a larger event: "A Symposium on the Future of Postsecondary Education in the Tri-Cities." This symposium was sponsored by a variety of local public service agencies.— Quite a large group of local citizens took part in the proceedings, perhaps 200 to 300 people. The results of that symposium are summarized below.

Representatives from the six public senior institutions participated in the symposium, as did two Council staff members. Each of these persons discussed various factors involved in bringing upper-division programs to the Tri-Cities. Rather than reiterate their presentations here, it may be more appropriate to summarize the community's response to those presentations.

The community asserted that the costs of any upper-division programs that were brought to the Tri-Cities could be minimized through use of local facilities and local part-time instructors. This would eliminate capital expenditures, travel costs for commuting

campus faculty, and allow lower direct instructional costs through the payment of part-time rather than full-time salaries to faculty.

The community participants questioned the desirability of relying on traditional forms of postsecondary education, stating that on-campus residence requirements, emphasis on use of campus faculty, interinstitutional non-transferability of credits, and institutions' over-concern with full-time day students, were not in the best interests of meeting the needs of communities such as the Tri-Cities.

Local residents felt that the Tri-Cities' currently high rates of postsecondary participation and educational attainment should not militate against the offering of locally available upper-division programs. They pointed out that it was the traditional college age group that could leave the area to pursue baccalaureate studies (while older people with jobs and families could not), and that it was this younger group that boosted the area's participation rates and educational attainment levels. Furthermore, they asserted, it was the community's overall interest in education that prompted these young people to go off to college in the first place.

Finally, they noted that other states (California, New York, and New Jersey were named) had established mechanisms for expanding educational opportunities to people in communities that were distant from college campuses; they wondered why Washington could not do the same.

Earlier, this report noted a tendency for postsecondary institutions and their potential students to create self-fulfilling prophecies in communities where off-campus courses and programs are offered. When advertised offerings must be cancelled due to inadequate enrollments, the sponsoring institutions sometimes perceive this as evidence of weak local interest and so offer only isolated courses that they believe will attract sufficient numbers of students. Also, when a pool of self-enrichment and degree-seeking students feels it cannot count on the cohesiveness and continuity of institutions' external offerings, its members will tend to stay away, thus providing a level of support that is adequate to sustain only isolated, high popularity courses. Such an enervating process seems to be at work in the Tri-Cities.

Educational participation is elastically dependent on the characteristics of services to be provided (i.e., their geographic accessibility, their relevancy to personal and professional goals, their cost, etc.). That is, the types of services offered determine the actual level of participation. Given the relatively high educational level of Tri-Cities residents; the Hanford Project's social, cultural, and economic influence on the community; and the number and intensity of local efforts to acquire upper-division education for the area, it is reasonable to suggest that extensive local interest exists for postsecondary services at the upper-division level--if they are readily accessible.

Indications are that there is a substantial local interest in upper-division curricula in Business Administration and Engineering (particularly among Hanford Project personnel), and in Science and Liberal Arts. More importantly, however, people are interested in upper-division offerings that are cohesive, continuous, and broad enough to allow them to earn a baccalaureate degree without moving to a distant campus. The following section of this report will discuss a means for fulfilling these interests.

Alternatives for Fulfilling the Local Interest in Upper-Division Programs:

There are a number of means by which upper-division programs could be brought to the Tri-Cities. Those could include the following: continuation of the present situation in which several institutions offer a variety of courses and programs; development of a new collegiate institution in the Tri-Cities; conversion of the JCGS to an upper-division and graduate center; expansion of Columbia Basin College into a four-year institution; employment of a Tri-Cities coordinator for upper-division programs; and development of a consortium made up of public four-year institutions from around the state. These alternatives were each examined and then discarded for a variety of reasons.

There seem to be distinct advantages in having one institution be primarily responsible for meeting the upper-division educational

needs of the Tri-Cities. There can be greater continuity in programs, more clearly defined lines of accountability, and a more integrated and carefully planned aspect to the services provided (including support services, such as the provision of counseling and library materials).

Any of the three public four-year institutions that now provide upper-division instruction in the Tri-Cities (WSU, CWSC, and EWSC) seem to be likely prospects for such a role. But Central has already begun a unified series of courses that will lead students in the Tri-Cities to a locally available baccalaureate degree (which the three local surveys that were described earlier asserted was desirable). Local interest in this program is high, as evidenced by its enrollments. Winter headcount enrollment totalled 75 persons, up 9 from Fall Quarter. Because of the institution's commitment to the Tri-Cities, it seems appropriate that Central Washington State College be the primary delivery agent for upper-division postsecondary services to that area. For the purpose of meeting these responsibilities, Central should develop and submit to the Council for Postsecondary Education a proposal in which it outlines its plans for serving the Tri-Cities.

The three needs surveys outlined earlier also indicated strong local interest in Business, Engineering, and Science programs at the upper-division level. Central would be able to offer coursework in all of these areas except Engineering. If the need for Engineering is adequate and a local program proves feasible (there is some question regarding its feasibility, given Engineering programs' certification procedures), then Central should negotiate with WSU or some other institution to provide the core instruction, using Central's courses as electives. The same concept holds true for other programs not in Central's repertoire.

For clarification, several points need to be made. First, Central has already begun to serve those Tri-Cities students who wish to earn a bachelor's degree locally, and that institution should be primary delivery agent for upper-division services in the area. Second, though Central should be primary delivery agent, it should not try to establish programs in subject matter areas where

it does not currently have campus programs or resources. Instead, programs of this kind should be provided by institutions which have the capability, as the need is established.

Third, institutions which plan to offer courses in the Tri-Cities should avoid duplication of, or competition with, Central's offerings. (Similarly, Central should not offer lower-division courses that Columbia Basin College can offer, or upper-division courses that the JCGS can offer.) To facilitate this interinstitutional cooperation, representatives of Central, Eastern, WSU, the JCGS, CBC, and other interested institutions should meet together periodically. Extensive efforts should be made by this group to promote student mobility between their various courses and programs, reduce transfer-of-credit problems, avoid duplication and competition, and, in general, achieve program coherence and unity that will benefit Tri-Citians.

Central Washington State College and other postsecondary institutions, when planning programs to serve the Tri-Cities, should take note of the substantial human and material resources already available there which could significantly cut the cost of programs to be provided.

A telephone survey by Council staff indicates there are substantial classroom facilities available in local high schools, particularly for use in the evening. Though in some cases rent would have to be paid, in others the rooms are available merely for the cost of keeping them open.

Information received from Columbia Basin College indicates that large numbers of qualified upper-division instructors reside in the Tri-Cities. CBC's Dean of Instruction indicates that, during recent years, he has been contacted by more than 150 local residents who hold doctoral degrees in a broad variety of disciplines and who wish to teach part-time at the college level. Use of some part-time faculty in any program brought to the Tri-Cities would greatly reduce salary and travel costs.

With regard to support services such as registration, student counseling, and library resources, contracts might be negotiated between CBC and institutions sponsoring upper-division programs.

Also, in reference to local libraries, eight such facilities now exist. Two of these are branches of the Mid-Columbia Regional Library Association (in Kennewick and Pasco) and a third is the Richland Public Library. A fourth library, and one which contains a broad range of material is the Columbia Basin College Library. The JCGS Library, while primarily oriented toward the Center's technical programs, also has limited selections in literature and the social sciences, and a wide array of materials in education and business administration. The last three of the eight libraries are quite narrow in their focus: Battelle's library, housed on the Hanford Project site, is technical in nature; a mental health library is located in the local mental health facility; and ERDA operates a legal library at the Federal Building in Richland.

It is doubtful that when taken separately or together, materials in these libraries are now adequate to completely support upper-division offerings in the Tri-Cities. Though these local libraries have much useful material in them, postsecondary institutions that offer instruction in the Tri-Cities will have to work closely with local libraries to make sure that adequate library materials exist for their students.

If Central and other institutions make good use of the range of human and other resources already available locally, upper-division postsecondary services can be brought to the Tri-Cities more effectively and efficiently than at present. Local residents who are unable to attend distant campuses will be able to complete baccalaureate programs without leaving the Tri-Cities.

PART II:

THE ADMINISTRATIVE STRUCTURE AND FUNCTIONS OF THE JOINT CENTER FOR GRADUATE STUDY AT RICHLAND

DEVELOPMENT OF GRADUATE EDUCATION IN THE TRI-CITIES

The General Electric School of Nuclear Engineering:

The DuPont Company was the first "prime contractor" to the Atomic Energy Commission for operation of the Hanford Project. In 1946, however, the General Electric Company replaced DuPont as prime contractor. During the following year, the General Electric School of Nuclear Engineering was created. At that time, the total investment made by the AEC in Hanford Project facilities amounted to around one billion dollars, and the number of employees totalled about 10,000.

Many of these people were professionals, holding a variety of academic degrees ranging from the baccalaureate through the doctoral levels in fields such as Mathematics, Physics, Chemistry, and several sub-fields of Engineering. The G.E. School's original function was to provide these people with in-house, continuing education courses. (Also, the presence of this educational facility in the fairly remote Tri-Cities area was intended to serve as a recruitment device to help attract skilled personnel to the Hanford Project.) At first, these courses were not related to any degree program, though before the school began operation, course content and instructional staff had been reviewed and unofficially approved by four universities: the University of Washington, Washington State University, Oregon State University, and the University of Idaho.

Soon after the School got underway, the universities were asked to accept a number of courses as preparatory work for students who wished to go to one of the campuses and obtain an advanced degree. Progressively more and more of the School's courses were accepted by the universities; slowly the School's function began to shift from continuing education to a degree orientation.

This gradual evolution continued until 1958, when G.E. asked the four universities to consider taking over administration of the School. The company felt that it had come to be running an education facility and that such an activity would be more appropriately carried out by

the universities. The universities agreed to accept the responsibility, and, to simplify the transition, it was agreed that the University of Washington would hold the AEC contract for operation of the School and thereby become the School's fiscal agent. In other facets of the School's operation--including academic policy decisions--the four universities' Graduate School Deans were to participate as equals. The School was renamed the Center for Graduate Study.

The Center for Graduate Study:

The Center came into being in July, 1958. It, like the G.E. School, was housed in downtown Richland in a converted dormitory. Until 1965, the Center's main purpose was to coordinate the offering of graduate level courses that could be applied to a graduate degree at one of the administering universities. (In 1960 the University of Idaho withdrew from the Center to devote its resources to a similar AEC project in Idaho.) Curricula in a variety of science and engineering disciplines were devised cooperatively by Center faculty (composed of part-time instructors who were research employees at the Hanford Project) and university faculty.

As noted earlier, in 1965 the whole Hanford Project (and the Tri-Cities in general) began its diversification efforts. New industrial organizations brought a wide array of interests and activities to the area; the range of local research programs was expanded. These changes required expansion of the Center's graduate education program to meet the needs of a more complex industrial research community. To respond to this need, the state (primarily through a bond election), local businesses and groups, and the Federal government contributed moneys toward construction of a new educational facility for the Center.

The Federal share was obtained in 1966 when the Center applied for and received moneys under Title II of the Higher Education Facilities Act for the purpose of constructing the present facility, which is located on an 84 acre tract in Richland owned by the University of Washington. The total costs for developing this facility were paid by the following four sources in the following amounts:

State Building and Higher Education Construction Account (Referendum 15)----------	$ 500,000
University of Washington Plant Fund-----	311,570
Cash contributions from Richland businesses and organizations----------	507,320
Grant from the U.S. Office of Education----------	437,653
TOTAL:	$1,756,543 [16]

The new building provided needed classroom, laboratory, and administrative space.

In 1969, the Center was renamed the Joint Center for Graduate Study to reflect the joint administrative agreement entered into during that year by the University of Washington and Washington State University. (OSU withdrew from participation in the Center's administration, but continued to take part in its academic programs.)

At that time, through the auspices of the University of Washington, Washington State University, and Oregon State University, the Center offered coursework applicable toward graduate degrees in Biology, Business Administration, Ceramic Engineering, Chemical Engineering, Chemistry, Education, Electrical Engineering, Librarianship, Mathematics, Mechanical Engineering, Metallurgical Engineering, Nuclear Engineering, and Physics at the three universities. The Center relied totally on part-time faculty,drawing on the services of local Hanford employees and campus-based instructors. Its programs were offered almost exclusively during the evening, and, in most programs, degree-seeking students were required to spend varying amounts of time on one of the universities' campuses to meet residence requirements.

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[16] Information received from JCGS administrators.

The Joint Center for Graduate Study:

The Center's major functions have not changed since 1969; however, a number of programmatic, policy, and procedural changes have occurred in that interim. Prior to 1971 all degree programs at the Center (with the exception of the University of Washington's MBA program) were offered jointly by the three participating universities. Each program, each course, and each instructor had to be approved by each of the three institutions. In 1970 a task force was empanelled by the Presidents of the University of Washington and Washington State University to review this unwieldy process and recommend changes.

The presidential task force recommended that all degree programs at the Center be reviewed by appropriate departments at the University of Washington and Washington State University for the purpose of establishing which of the programs should be sponsored by a single department at one or the other of the two institutions. If no department wished to sponsor a degree program it would be dropped. A discontinued program could be re-established "provided that the need for doing so can be justified to the satisfaction of the Administrative Board and the sponsorship of a qualified department can be obtained."[17] It was envisioned that, for each of the sponsored programs:

> All academic administration (such as degree requirements, course approvals and development, faculty appointments, student admission, and advising and counseling) would be the responsibility of the sponsoring department...as would be done for any aspect of the on-campus program of the sponsoring department.[18]

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[17] "Report to President C.E. Odegaard and President W.G. Terrell." Task Force appointed to study the operation of the Joint Center for Graduate Study. August, 1970. p. 18.

[18] Ibid. Task Force appointed to study the operation of the Joint Center for Graduate Study. p. 19.

The report of the task force was submitted and sponsorship of the various graduate degree programs was undertaken in 1971.

An important recent policy change has been a general relaxation by the institutions and the sponsoring departments of the on-campus residency requirements for graduate degrees. A 1969 study by the Center's Advisory Committee included a history of Center enrollments and degree conferrals in the various programs vividly illustrating the effects of on-campus residence requirements on program size. In particular the report compared the records of programs without residence requirements (those of the University of Idaho and the MBA program of the University of Washington) with the records of programs carrying residence requirements.

The Committee found that, historically, in the University of Washington's MBA program, 80 percent of the total student quarter enrollments were directly applied toward completion of an advanced degree. The University of Washington was able to waive on-campus residence requirements for this program because its business faculty commuted from Seattle to teach the program's courses. Also, the University of Idaho had waived on-campus residence requirements during the 1950's when it had participated in the Center's programs. As a result, 98 percent of its student quarter enrollments were applied toward advanced degrees.

In the remainder of the Center's then current programs (all of which entailed some on-campus residence requirements to be met at the University of Washington, Washington State University, or Oregon State University) only 24 percent of all student quarter enrollments were applied toward an advanced degree.

The Advisory Committee report recommended that "full residence degree programs in essentially all areas of science and engineering currently offered through the Center be established...."[19] Since the fall of 1972, when the first of six full-time faculty members were

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[19] "The Role of the Center for Graduate Study." The CGS Advisory Committee. January, 1969. p. 10.

hired, the sponsoring universities have begun to remove on-campus residence requirements.

There have been many changes in the Center's instructional offerings since its inception. (Sponsorship of Biology and Radiological Science programs is the most recent major example.) However, the Center's focus has been and continues to be, on provision of programs in nuclear sciences and other related fields and in engineering. (Obvious exceptions to this rule are the Center's programs in Business Administration, Education, and Librarianship.)

At the present time, the JCGS offers sponsored degree programs in 12 different disciplines and support courses in three other disciplines for a total of 15 academic fields in which master's degrees may be earned. Also, in five of these fields, students may pursue study toward a Ph.D. As Table XIV points out, on-campus residency must still be met in five of fifteen fields that offer master's degrees and in all five fields that offer doctoral studies.

Table XV depicts the average number of graduate student majors enrolling in JCGS programs during the Fall, Winter, and Spring Quarters of academic year 1974-75. As can be seen, substantially fewer students enrolled in programs that required on-campus residence at the sponsoring universities. While it is not possible to attribute low program enrollments solely to residence requirements, both historically and currently they seem to exhibit a strong influence on enrollment levels.

An analysis of what factors currently interact to determine students' participation levels in the Center's programs is beyond the scope of this study. But it is unclear why certain programs currently listed in the Center's catalogue are being listed at all. For example, no students have majored in Ceramic Engineering during the last two academic years. A degree program analysis should be pursued as part of the Center's regular planning process and as part of the Council for Postsecondary Education's graduate program review process.

During the course of this study, some Tri-Citians suggested that other types of energy-related degree programs might be needed at the Center. The sponsoring universities and the Center should analyze the

need for additional programs and seek ways to meet these needs. Other universities in the Pacific Northwest might also be willing to sponsor such programs at the Center.

Table XVI points out the pattern of enrollment change at the Center since 1970. Enrollments dipped low during the 1971-72 academic year due to Hanford lay-offs and a sluggish local economy, then surged forward. Last fall's FTE enrollment at the Center was 334 percent above the low enrollment academic year of 1971-72.

The Center's second major function is energy-related research. To help carry out this aspect of its function the Center engages in a variety of activities. Several proposals are prepared each year by Center faculty and administrators, either individually or cooperatively, with research scientists from one of the contractor companies. During the last fiscal year eight such proposals were funded by a variety of external organizations. Two others are pending.

The Northwest Electric Energy Systems Research Council (NESRC) is a loosely structured organization comprised of electrical engineering departments of its member institutions (Battelle Northwest, the JCGS, Oregon State University, the University of Idaho, the University of Washington, Washington State University, and Whitman College). This group, formed in 1973, has as its purpose the development of educational and research activities, primarily in electrical power-related programs. Though a number of meetings have been held, specific projects have not been funded or undertaken. A new full-time faculty member at the Center will invest substantial effort to further this organization's aims, and Center administrators hope that NESRC will be able to make significant contributions to the Center's research program.

A group of scientists and engineers, under a sub-contract with Exxon Nuclear Incorporated, are housed at the Center. Their research consists of developing an artificial heart. A portion of the total of $750,000 per year in project funds provided by the National Heart and Lung Institute supports one full-time faculty member and two graduate students. Though only recently relocated to the Center, the project has been underway elsewhere for nearly eight years and should continue into the indefinite future.

TABLE XIV

PROGRAMS OFFERED AT THE JCGS

BY SPONSORING INSTITUTION[20]

--Washington State University sponsors the following programs:

Program	Degrees Available	Junior and Senior Level Courses Offered Too
Biological Science	MS*	Yes
Chemistry	MS*	Yes
Computer Science	MS	Yes
Education	MEd	Yes
Electrical Engineering	MS	Yes
Materials Science (Metallurgical Engin.)	MS, Ph.D.**	Yes
Mathematics	MS*	Yes
Physics	MS*	Yes

--The University of Washington sponsors the following programs:

Business Administration	MBA	No
Ceramic Engineering	MS***, Ph.D.***	Yes
Chemical Engineering	MS, Ph.D.***	No
Librarianship	MLib.***, MLawLib***	Yes
Nuclear Engineering	MS, Ph.D.***	Yes
Radiological Sciences	MS	No

--Oregon State University sponsors the following program:

Mechanical Engineering	MS, Ph.D.***	No

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[20] Information from current JCGS Catalogue and from JCGS Administrators.

* These programs are not "sponsored degree programs" in the same sense that others are. Courses are offered in these disciplines on a "support" basis (i.e., to give students adequate background for pursuing graduate degrees in the sponsored programs). To obtain graduate degrees in these fields, students must put in at least one semester of residency on campus.

** No courses offered at the JCGS. This is an interdisciplinary program that requires a minimum of two semesters residency on campus.

*** Only a portion of the course work for this degree is available at the JCGS. One year of residency is required on campus.

TABLE XV

AVERAGE NUMBER OF GRADUATE STUDENT MAJORS ENROLLING IN JCGS PROGRAMS DURING FALL, WINTER, AND SPRING QUARTERS OF ACADEMIC YEAR 1974-75 [21]

Programs Requiring On-Campus Residence	Average # of Majors Per Qtr.	Programs Not Requiring On-Campus Residence	Average # of Majors Per Qtr.
Ceramic Engineering	0.0	Biological Science*	1.0
Chemistry	1.0	Business Administration	51.7
Engineering Science (WSU Doctoral Candidates)	2.3	Chemical Engineering**	9.0
		Computer Science	8.3
Librarianship	2.0	Education	19.0
Mathematics	.3	Electrical Engineering	5.3
Physics	.7	Materials Science and Engineering**	8.7
		Mechanical Engineering**	10.7
		Nuclear Engineering**	23.3
		Radiological Sciences*	4.0

*The latest additions to the list of sponsored programs.

**Though master's degrees in these disciplines do not require on-campus residency, PhD's do.

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21 The Annual Report of the JCGS, July 1, 1974-June 30, 1975. R. Wells Moulton. September, 1975. Appendix B-3.

TABLE XVI

GROWTH IN FTE STUDENT ENROLLMENT

AT THE JCGS SINCE 1970 [22]

Academic Year	Autumn	Winter*	Spring	Summer
1970-71:	66.7	58.9	49.6	18.0
1971-72:	52.6	48.5	37.6	13.2
1972-73:	75.0	45.9	63.0	43.3
1973-74:	113.6	45.9	70.2	61.3
1974-75:	128.0	81.8	101.2	63.1
1975-76:	175.7	101.3		

[22] Information received from the JCGS.

*The dip in Winter Quarter enrollments (compared to both Autumn and Spring enrollments) is due merely to accounting procedures used for the Center's Education degree program. Because the program is offered on a semester basis, it was arbitrarily decided that its September enrollments should be included in the Autumn column and its January enrollments should be counted under Spring Quarter's column.

The third major function of the Center is public service. One aspect of this includes the sponsoring (or co-sponsoring) of special lectures, seminars, short courses, workshops, conferences, a science seminar series, and other educational activities. Because the Center is a highly specialized graduate facility, continuing education offerings were at first limited to subjects related to the Center's regular academic programs. During the last four or five years, however, the JCGS has branched out to offer continuing education of greater diversity. Nearly 70 continuing education offerings attracted 1,604 people during the academic year 1974-75, up from 456 during the academic year 1970-71. This program of continuing education is seen by Center officials as their major commitment to extending the service of the JCGS to a wider range of Tri-Cities residents than can be served by the Center's regular academic programs.

Another aspect of the Center's public service function is the administration of the Northwest College and University Association for Science (NORCUS), which was formed in 1966 to carry forward what had been called, prior to that time, the Richland Graduate Fellowships. NORCUS currently has 50 member colleges and universities, plus several industrial members--primarily ERDA contractors at the Hanford Project. The JCGS administers NORCUS, which brings students and faculty members from member colleges and universities to ERDA laboratories to conduct research. During fiscal year 1975, ERDA allocated $265,500 for NORCUS activities. Forty-five undergraduates, 10 graduate students, and 30 faculty took part in the program last year, working at eight different ERDA facilities in three states. NORCUS activities and moneys are growing. New programs include a Citizen's Workshop and a Traveling Exhibit Program.

The budget and financial activities of the JCGS are under the direct control of the Administrative Board. The University of Washington acts as fiscal agent for the Center and as such maintains the official accounting records pertaining to the Center. Revenue for Center operations comes from sources which include the State of Washington through the two administering universities, grants and contracts mainly from the Federal government, and local revenue.

The total 1975-77 revenue from these sources is anticipated to be $3.3 million. This includes approximately $.7 million from state general funds (equally split between the administering universities), $.2 million from local sources, and $2.4 million from grants and contracts mainly with the Federal government.

Data presented in Table XVII indicate that revenue from grants and contracts increased from the 1973-75 biennium to the 1975-77 biennium more than revenue from any other source. This increase is due largely to new energy-related programs at the Center which are being funded by grants from the Federal government. Revenue specifically identified for degree programs totals approximately $1.4 million. The remaining $1.9 million are designated largely for activities other than degree programs.

From these data, it is clear that the Center does more than provide instruction for graduate students. Center activities provide services for a broad clientele which include Washington citizens interested in furthering their graduate education, out-of-state universities which utilize Center resources through consortium arrangements, and the Federal government which contracts for many specialized services with the Center. Because the Center engages in activities that are more diverse than merely providing instruction, the budget documents of the University of Washington and Washington State University should be reflective of total Center operations. Currently, budget information contained in both the UW and WSU's budget documents does not adequately describe the scope of the Center's activities. Other than state-derived funds, financial resources and expenditures are not detailed in the two universities' budget request documents. Budget document information should be expanded to include information about programs funded from grants and contract revenue such as NORCUS and the artificial heart project. The budget document should also include information concerning the size of the faculty and student populations associated with the Center. Data such as these will provide decision makers with needed detail to assess the financial impact of their budget decisions on the Center.

TABLE XVII

1973-75 and 1975-77 Budget Comparisons

Revenue Source	1973-75	1975-77	1975-77 % Increase Over 1973-75
State General Fund	$ 533,384*	$ 683,201	28%
General Local Fund	140,800	177,460	26%
Grants & Contracts	917,808	2,460,838	168%
TOTAL	$1,591,992	$3,321,499	108%

*Does not reflect salary increases granted from March, 1975 through June, 1975.

Because the Center offers graduate programs and is connected with both the University of Washington and Washington State University, a comparison of direct instructional cost per full-time equivalent student (FTE) was calculated. Direct instructional costs are only those costs which relate directly to teaching in the classroom (such as faculty and support staff salaries). Total instructional costs per FTE student are not calculated herein because some costs which would normally be distributed for a university student are unavailable for distribution to Center FTE students. These costs are:

(1) Some accounting and management expenses incurred by both the University of Washington and Washington State University;

(2) Usage of private company facilities and libraries for Center instructional purposes;

(3) Full-time faculty costs. (The Center faculty is comprised mostly of part-time people and this fact greatly reduces direct instructional costs.)

In computing the direct instructional cost per FTE student, the Council for Postsecondary Education Cost Reporting Manual was utilized where possible and reasonable assumptions were employed when necessary. The Council's 1972-73 cost study figures, inflated to 1974-75, show that at the UW direct instructional cost per FTE student in Engineering, Business and Education was $2,678. The corresponding cost at WSU was $3,129. At the Joint Center for Graduate Study the 1974-75 FTE student direct instructional cost was $2,019. The higher FTE student cost at Washington State University is due mainly to the higher cost of its graduate engineering programs, while the relatively low direct cost of JCGS instruction is attributable to the Center's reliance on part-time faculty.

The JCGS's educational services have evolved through three phases: in-house training, inter-university cooperation in graduate level continuing education, and, today, university sponsorship of specialized graduate degree programs. Throughout the Center's history, the impetus and justification for offering a particular course have been based

primarily on the needs of those Hanford Project related personnel who already possessed at least a bachelor's degree.

While tuition reimbursement (from ERDA through the Hanford companies) is available to both undergraduate and graduate students who are employed by Hanford contractors,[23] the JCGS and its programs primarily seek to serve the latter (graduate) group. Historically, the Federal government helped establish the Center for the purpose of providing highly specialized graduate level education to college graduates who came to the Tri-Cities to work at the Hanford site. This was seen as an essential recruitment device because of the Tri-Cities' relatively remote location, and it was also considered to be a good investment in human resource development.

Given ERDA's continuing financial support, the Hanford companies' interest and support, and the substantial growth of student enrollments during recent years, it appears that the Center is adequately performing the functions for which it was originally designed. While the Center should continue to emphasize these traditional functions, it should also take note of undergraduates' educational needs.

Current course offerings of the JCGS are limited to graduate and upper-division courses which either form part of the curriculum of a sponsored graduate degree program or comprise necessary support for sponsored graduate degree programs. Enrollment in graduate and undergraduate courses was until recently restricted to holders of baccalaureate degrees, and under current policies a course is cancelled regardless of total course enrollment unless at least five baccalaureate-holders (graduate students) enroll.

As off-campus upper-division undergraduate degree offerings are developed in the Tri-Cities, the needs of baccalaureate-bound students will probably require that all locally available upper-division offerings, including those at the JCGS, be most effectively and efficiently utilized for those students' benefit. Undergraduate students should be able to count on the JCGS courses not being cancelled for lack of a certain number of baccalaureate-holder enrollments.

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[23] Information received from the Contracts Office at ERDA in Richland.

According to ERDA's Contracts Office in Richland, removal of this requirement would pose no problem regarding the agency's present financial support of the Center. While ERDA's monetary contributions to the Center are premised on the Center's service to Hanford Project personnel, ERDA makes no explicit requirement that those Hanford employees who enroll at the Center be holders of baccalaureate degrees. If one or more of the Center's scheduled courses is occasionally taught to a group of students who are not Hanford employees, then the Center can negotiate those courses' funding on a case by case basis with ERDA.

THE JCGS ADMINISTRATIVE STRUCTURE

The following discussion is based in part on interviews held with various individuals and groups associated (either presently or formerly) with the sponsoring universities and the JCGS, and in part on Council staff's review of numerous documents from the Center and the sponsoring universities.

(One of the documents examined during this study is central to the Center's current operation and will be referenced several times in the remainder of this report. It is the "Administrative Organization and Operating Agreement" drawn up by the University of Washington and Washington State University's Presidents in 1969 and revised in 1973. That agreement is attached to this report as Appendix B.)

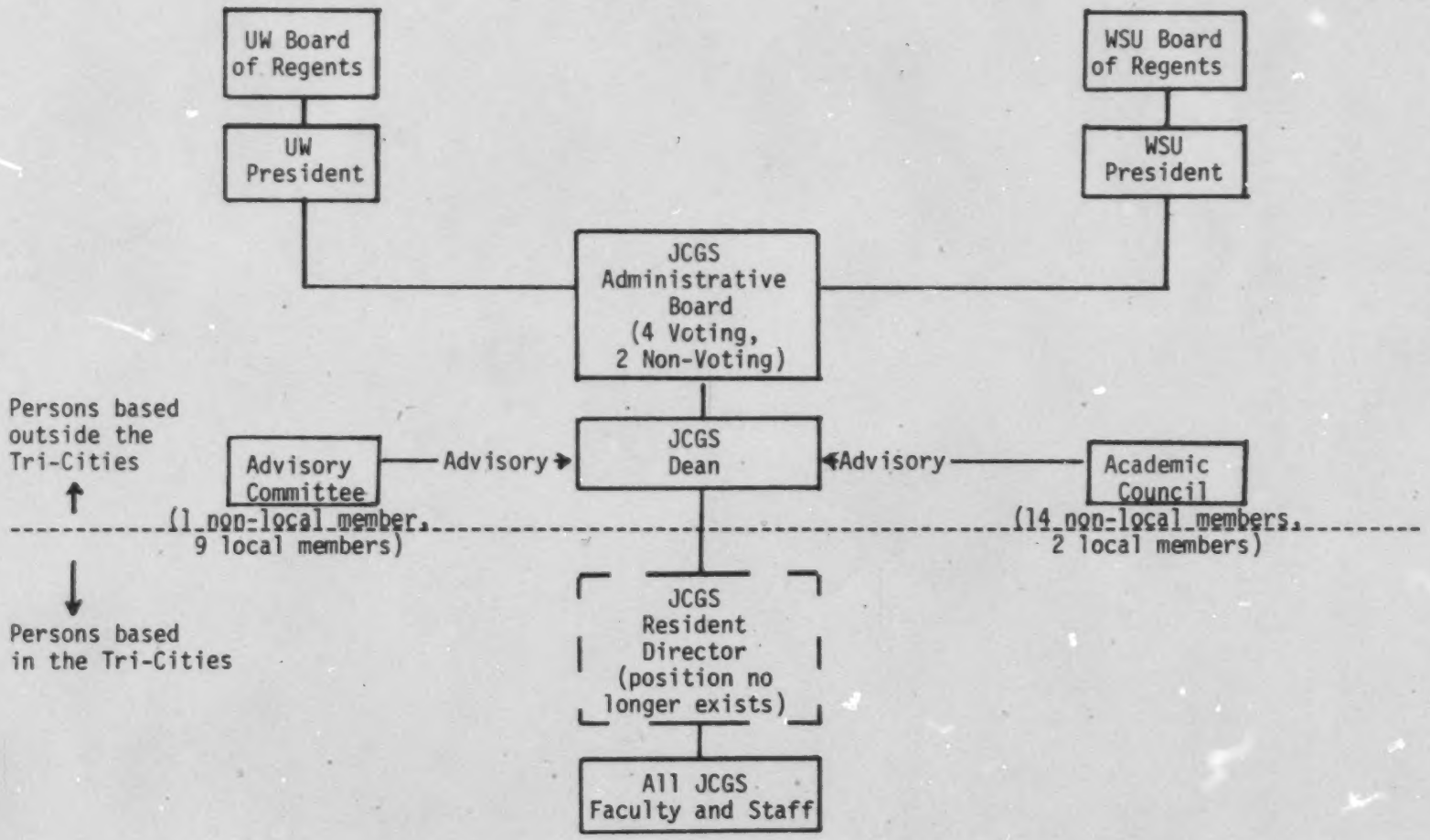
This particular section will discuss various aspects of the JCGS's administrative structure and suggest structural changes which could enhance the Center's functioning. Of primary concern are two issues: First, the administering universities' control over the Center and its programs and, second, the effectiveness of local administrative authority at the Center. (Table XVIII portrays the administrative and advisory structure of the JCGS.)

The Universities' Control of the Center and Its Programs:

In 1969, when it was renamed the Joint Center for Graduate Study, the Center was administered by an Inter-University Board made up of the sponsoring universities' Graduate School Deans. These university representatives had to make decisions on a variety of large and small issues related to the Center's operation. Two studies completed in 1969 and 1970 by the Center's Advisory Committee and a university appointed task force, respectively, advised that the Board's membership and functions be changed to allow it to more adequately deal with evolutionary changes in the Center's development. On the basis of this advice (and further study by the universities) the Center's administrative structure was eventually modified.

TABLE XVIII

ORGANIZATIONAL STRUCTURE OF THE JCGS [24]



[24] Information received from JCGS Administrators.

Today, the JCGS is governed by an Administrative Board comprised of six people. The four voting members are appointed by the Presidents of the University of Washington and Washington State University; each President designates two of his Vice Presidents as Board members. The Dean of the JCGS is a fifth member (ex-officio without vote), and a staff person from the Richland office of ERDA is the sixth member (ex-officio without vote). These people share the responsibility for overall administration of the Center and meet together three or four times each year in Richland and elsewhere in the state to consider policy and operational matters brought before them by the Dean of the JCGS.

A number of present and past administrators, faculty, and staff at the Center, during interviews with Council staff, expressed concern that some of the Administrative Board's meetings are held at locations outside the Tri-Cities, asserted that the meetings are not "adequately" publicized in advance, and stated that minutes of those meetings are not distributed at the Center or released to communications media in the Tri-Cities.

The Center is geographically remote from its parent campuses and Board members sometimes find it difficult to meet in the Tri-Cities; furthermore, the state's "Open Public Meetings Act of 1971" does not require that governing boards meet within the geographical jurisdiction which their organization serves. However, given the infrequency of Administrative Board meetings and the Tri-Citians' substantial interest in policy decisions affecting the Center, future Board meetings should be held at locations in the Tri-Cities so that interested local citizens may attend. Also, the Administrative Board should make extensive efforts to publicize these meetings in advance and distribute meeting minutes afterward to Tri-Cities communication media and Center staff people.

Another issue of concern, and a more important one in terms of its long-run impact on the JCGS, is the composition of the Administrative Board's membership. At present, all policy issues related to the Center are decided by persons who live and work at a distance from the Tri-Cities. The four voting members of the Administrative Board reside in Seattle or Pullman, have substantial demands placed on their time by their vice presidential duties at the UW or WSU, and necessarily,

have only infrequent contact with the Tri-Cities or with the Center's daily operations and staff.

Only two Board members have regular contact with the Center: the Dean of the JCGS and the ERDA staff person. As noted earlier, both of these people are ex-officio Board members without vote. Also, the Dean is based in Seattle, where half of his time is allocated to carrying out his duties as Chairman of the University of Washington's Chemical Engineering Department. The Richland-based ERDA staff person's contacts with the Center are primarily limited to her work as ERDA contract administrator and JCGS Board member.

No Tri-Cities residents (save the ERDA staff person) have direct access to the Center's Administrative Board at this time. The JCGS's Advisory Committee and, to a lesser extent, its Academic Council have local representation in their memberships, and these bodies advise the Dean of the JCGS on administrative and academic policies and procedures. However, as Table XVIII shows, no Tri-Cities resident serves in any but a ex-officio capacity at any of the policy making positions in the administrative structure of the JCGS.

Some accepted guidelines exist for promoting local participation in the governing bodies of "cooperative graduate centers" such as the JCGS. The "Education Amendments of 1972" call for at least one-third of a governing board's membership to be comprised of "community representatives."[25] Though this section of the amendments does not legally bind the JCGS, the intent of this section is certainly applicable, and eligibility for certain Federal grants is contingent upon conformance with this structure. The JCGS is a complex and costly organization. Because its service is directed to the Tri-Cities, and because its future is of importance to people who live and work there, it is appropriate that they have representation on the Center's Administrative Board.

One other distinct local group's interests also need to be considered here. The JCGS's faculty is unique in that 91 of its 97 members work only part-time at the Center. Most of these people make

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[25] "Education Amendments of 1972." U.S. House of Representatives. Report No. 92-1085. p. 71.

their living as research scientists for various Hanford-related companies. Many of them are widely published and enjoy national and international reputations in their respective scientific fields. A study done by the Center's Advisory Committee in 1969 indicated that the 79 part-time faculty then employed had published a total of 696 articles in scientific journals, 617 industrial research reports, and 11 books. Sixty-three of them held a Ph.D. degree.[26] The faculty of the Center are carefully chosen by the institutions for their positions at the Center and they evidence a highly professional attitude toward their work at the Center.

Though the Center's faculty is loosely organized into a group called the "Resident Faculty," this group has not been formally recognized by the Center's administration and has no clear function. Five years ago, the task force appointed by the UW and WSU's Presidents to study and make recommendations on the Center's operation noted a "pressing need" to organize the Center's faculty into a strong unit and to "develop a set of Faculty Operating Procedures appropriate to the unique characteristics of the Center" (p. 21). This handbook, which would clarify and rationalize the roles and employment conditions of the varied types of Center faculty, has yet to be completed and finalized.

As with any educational facility, the rights and responsibilities of the JCGS faculty should be clearly delineated in writing. The JCGS should develop written personnel policies to be adopted by the Administrative Board and ratified by the governing boards of the administering universities.

The Effectiveness of Local Administrative Leadership at the JCGS:

As indicated in Table XVIII, the JCGS's Resident Director position no longer exists. It was eliminated at least temporarily, late in 1974.[27] The latest person to fill the position was terminated, as were two of his three predecessors. Historically, the Resident

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[26] "The Role of the Center for Graduate Study." The CGS Advisory Committee. January, 1969. p. 20.

[27] The Annual Report of the JCGS, July 1, 1974-June 30, 1975. R. Wells Moulton. September, 1975. p.2.

Director was selected jointly by the University of Washington and Washington State University. As the operating agreement of 1973 states, "The Director shall report to, shall be responsible to, and shall be subject to the general supervision of the Dean of the Center" (p. 5). The Resident Director was responsible to the Dean for carrying out the policies and directives of the Administrative Board. Through the Dean's authority the Director was to administer the Center's affairs within a specified budgetary framework.

The basic reason for each Resident Director's termination appears to have been irreconcilable differences between the administering universities and each Resident Director regarding the Center's role in the Tri-Cities. The three Resident Directors who were terminated (each of whom was interviewed) felt that, in various ways, the Center should become more independent from the administering universities and expand its services to the Tri-Cities. The administering universities felt that the Center should continue on its original course at its then current pace, primarily offering nuclear science and engineering programs at the graduate level. In each Resident Director's case, these differences led to increasingly strained relations with the two Washington universities, and eventually they severed him from his position.

The Dean of the JCGS, as pointed out in the operating agreement of 1973, is appointed by the University of Washington and Washington State University to administer the Center's programs. This person is responsible to the Administrative Board, and with the Board to the Presidents of the Washington universities. Historically, the JCGS Dean's offices have been located at the University of Washington campus in Seattle. However, since early 1975 when the most recent Resident Director was terminated, the Dean has commuted two or three times each week to the Tri-Cities to oversee the Center's operation.

The JCGS's combined budget, from local, state and Federal sources, during the current biennium is $3,321,499. One hundred seventeen local administrators, part-time and full-time faculty, and staff carry on the 15 highly-technical academic programs that during Fall Quarter, 1975, served 391 students. The Center's research and continuing education functions, plus its administration of the NORCUS program, extend its impact even more widely throughout the Tri-Cities and the Pacific

Northwest as a whole. This operation represents a substantial investment of local, state, and Federal resources that requires full-time local management. Part-time, or geographically remote management is not enough.

The sponsoring universities seem to recognize this. In the current JCGS annual report they note that the Dean's presence in Richland two or three days each week "...is a short-range solution to the administrative problem" (p. 2).

In addition to the above points, the University of Washington's contract with ERDA, drawn up under the offices of the old AEC, states: "The Contractor (the UW)...agrees to furnish a full-time resident director at the JCGS who is satisfactory to the Commission" (AEC).[28]

A full-time resident administrator, who holds a rank of adequate stature at the administering universities, should preside over the day-to-day operations of the Center. This person should be both familiar with the internal workings of the sponsoring universities and able to negotiate with the various colleges' and departments' representatives as a professional equal, and he or she should be directly responsible to the Administrative Board.

Finally, changes that have been suggested in this report, and changes that have occurred at the Center during the last two to three years, may combine to make the 1973 "Administrative Organization and Operating Agreement" outdated. The administering universities should review the operating agreement and revise it to reflect these changes. Also, because the Center is a unique and costly resource for Washington State as a whole, the public (as represented by the administering universities' Boards of Regents) should be the ultimate controlling authority for the Center. Therefore, after the administering universities revise the Center's operating agreement, that document should be transmitted through normal channels to the respective universities' Board of Regents for their approval.

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[28] "Modification No. 17. Supplemental Agreement to Contractor No. AT(45-1)-1268 Between United States of America Represented by USAEC and Board of Regents of the University of Washington." Article IIC.

PART III:

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS AND RECOMMENDATIONS

Pertaining to the Postsecondary Educational Needs of the Tri-Cities:

There are a variety of alternative means through which upper-division postsecondary services could be expanded in the Tri-Cities. On balance, the best option seems to be to designate one public four-year institution as primary delivery agent in the area. This approach would make one institution responsible (and accountable), enhance program continuity, and, in general, promote effective planning in the programs provided.

At this time, Central Washington State College, Eastern Washington State College, and Washington State University each offer several courses at the upper-division level in the Tri-Cities. However, only Central offers a set of courses that will lead Tri-Cities students to a baccalaureate degree without those students having to move to campus for part of their coursework. Both because of Central's commitment to the Tri-Cities area and its substantial experience there, it seems appropriate that it be the primary delivery agent of upper-division services to the area.

1. The Council for Postsecondary Education recommends that Central Washington State College be the primary delivery agent of upper-division services to the area. Central should develop and submit to the Council a proposal that outlines its plans for serving the Tri-Cities. It is further recommended that Central report back to the Council regarding its progress in meeting the upper-division needs of the Tri-Cities no later than July 1, 1977.

Although it is recommended that Central Washington State College assume primary responsibility for upper-division, off-campus services in the Tri-Cities, it is not intended that it develop disciplines off-campus which it does not offer on-campus. Examples of this are disciplines such as Engineering, Social Work, and Agriculture, none of which are not offered by Central, but all of which are offered by other institutions. If off-campus programs that Central does not offer are needed in the Tri-Cities, or if support courses in some programs are outside the scope of Central's curriculum, Central should cooperate with the Council and institutions that offer the needed programs and courses for the provision of such services.

2. The Council recommends that Central not develop programs in disciplines outside its campus-based curriculum for off-campus offering in the Tri-Cities, especially if such programs are offered by other state colleges or universities. Central should cooperate with the Council and institutions that offer the needed programs and courses for the provision of such services in the Tri-Cities.

It is essential that all institutions, including Central, avoid duplication and competition with one another's Tri-Cities offerings. In this regard, all institutions should recognize Central's pre-eminent role in upper-division education in the Tri-Cities and not duplicate or compete with Central's offerings. Central, for its own part, should not offer lower-division courses that can be offered by Columbia Basin College or upper-division offerings that can be provided by the Joint Center for Graduate Study.

To promote this interinstitutional cooperation, Central should hold periodic meetings at which its own representatives and those of Eastern, Columbia Basin College, the JCGS, WSU, UW, and other interested institutions would work out transfer-of-credit problems, agree on courses to be offered in the Tri-Cities, and decide other matters that would promote greater student mobility between their various courses and programs.

3. The Council for Postsecondary Education recommends that, at periodic intervals, Central Washington State College convene meetings at which those postsecondary institutions which serve the Tri-Cities would agree on courses and programs to be offered, work out transfer-of-credit problems, and, in general, enhance the effectiveness of postsecondary services in the Tri-Cities.

Pertaining to the Joint Center for Graduate Study:

The JCGS's major academic focus has been quite specialized; its emphasis has been on nuclear science and related fields and on engineering. It appears that the Center provides useful specialized

educational services to the Tri-Cities and it should not change its general emphasis in any major way at this time.

While the JCGS should continue to emphasize its traditional functions, it should also work to open all its course offerings to qualified area citizens, regardless of whether those students are upper-division undergraduates or baccalaureate degree holders. As upper-division baccalaureate programs develop in the Tri-Cities, the course requirements of their students will necessitate ready access to all locally available upper-division coursework, including that at the JCGS.

4. Recognizing the special educational needs which attend the Hanford Project, the necessity of sustaining high quality graduate programs that address those needs, and the joint Federal-state interest in the JCGS: the Council for Post-secondary Education recommends:

   a. that the JCGS continue to offer specialized upper-division and graduate courses that can be justified as part of, or supportive of, sponsored graduate degree programs;

   b. that the decision to cancel, for a given academic term, a particular course that has been announced and opened for enrollment, be based on the total enrollment in the course rather than on any minimum level of baccalaureate-holder enrollment;

One degree program at the Center had no students enroll in it during the last two academic years. Several other programs have relatively low enrollments. Also, during interviews with Council staff, a number of people in the Tri-Cities suggested that programs not now offered at the Center may be needed. As with any educational center, vigorous program reviews should be carried out to make certain that resources are used efficiently and that programs offered are the ones most needed in the Tri-Cities. These program reviews should be conducted on an annual basis.

5. The Council for Postsecondary Education recommends that the JCGS and the sponsoring universities conduct thorough analyses of the Center's master's and doctoral programs for the purpose of determining if new programs are needed, and to ascertain which of the Center's current programs should be more heavily invested in, maintained at current levels, or terminated. These processes should be carried out annually. For its own part, the Council shall undertake review of Center programs as part of its graduate program review process.

Several Tri-Cities residents have noted that some of the Center's Administrative Board meetings are held at locations outside the Tri-Cities. These people believes that the meetings needed to be publicized more visibly in advance and that meeting minutes should be distributed more widely than they are now. While the Administrative Board's past meetings seem to have been conducted in compliance with the state's "Open Public Meetings Act of 1971," the Board should take reasonable steps, given Tri-Citians' substantial interest in the Center, to facilitate citizen attendance at Board meetings and disseminate the minutes of those meetings.

6.. The Council for Postsecondary Education recommends that most meetings of the Center's Administrative Board be held at locations in the Tri-Cities, and that the Board take reasonable steps to give public notice of these meetings in advance, and distribute meeting minutes to Tri-Cities communication media and Center staff afterward.

Budget information contained in both the UW and WSU's budget requests does not describe in adequate detail the Center's financial activity. Information in these documents should identify not only state resources but Federal and local resources as well. Additionally, budget narrative should be expanded to include information about such programs as NORCUS and the artificial heart project. Detailed data will allow

decision makers to more carefully assess the impact of their budget decisions on the Center's programs.

7. The Council for Postsecondary Education recommends that the University of Washington and Washington State University's budget request documents include revenue and expenditure information about all sources of Center funds, and grants and contracts funds.

Another issue is the composition of the Administrative Board's membership. At this time, no Tri-Cities resident (save an ERDA representative--ex-officio without vote) serves on the Administrative Board. Decisions affecting the Center's programs and the conditions under which they are offered are made by four Board members who live and work at some distance from the Tri-Cities. The Council believes that local representation at policy-making levels in the JCGS can be improved.

8. The Council for Postsecondary Education recommends that the University of Washington and Washington State University expand the Center's Administrative Board membership so that it is comprised of:

   a. two Vice-Presidents (voting members) from each of the administering universities, to be appointed by their respective Presidents;

   b. two Tri-Cities residents (voting members) to be appointed, one each, by the Boards of Regents of the University of Washington and Washington State University. These newly appointed lay Board members should hold no other position with either university or with the Center;

   c. the resident Dean of the JCGS and a representative of ERDA (both ex-officio without vote).

The Center has had a high turnover among its Resident Directors. Three of the last four people in that position were dismissed and the position itself has been temporarily eliminated. Given the costly and complex operations of the Center, it is important that there be full-

time local management of that facility. Furthermore, the local manager should be familiar with the internal workings of the sponsoring universities, should have rank and stature adequate to be able to negotiate with the universities' various colleges and departments as a professional equal, and should be responsible directly to the Center's Administrative Board.

9. The Council for Postsecondary Education recommends that the sponsoring universities appoint a resident Dean of the Joint Center for Graduate Study:

   a. who will be responsible on a full-time basis for administering the daily activities of the JCGS;

   b. who will be based at the JCGS rather than at one of the sponsoring universities' campuses;

   c. who will hold a joint appointment as Dean with each of the sponsoring universities;

   d. who will be directly responsible to the Administrative Board.

The JCGS faculty is informally organized into a unit called the "Resident Faculty;" however, this group has no formal recognition and no clearly defined function. Just as most postsecondary institutions' faculty members' responsibilities are delineated clearly in writing, so, too, should those of the Center faculty be.

10. The Council for Postsecondary Education recommends that the administering universities, Center administrators, and Center faculty jointly develop a faculty handbook that will clarify and rationalize the roles and employment conditions of the various types of Center faculty.

The impact of the preceding recommendations on the manner in which the Center is administered, plus changes that have taken place at the Center during the last two to three years, require that an operating agreement which reflects these changes be drawn up between the administering universities. Also, because the Center represents a unique,

costly resource for Washington State, the controlling authority for the Center should be the University of Washington and Washington State University's respective Board of Regents, and they should have final approval of the operating agreement.

11. The Council for Postsecondary Education recommends that the University of Washington and Washington State University draft a new "Administrative Organization and Operating Agreement" that reflects the changes recommended in this report and the changes that have occurred in Center operations since the last agreement was written. The redrafted operating agreement should then be transmitted through normal channels to the respective universities' Boards of Regents for their approval.

Local controversy over the Center and its functions prompted the Legislature to request a study by the Council. Reasonable people will continue to differ on various matters related to how the JCGS should be run. Advancements in some facets of the JCGS's operation have come more slowly than some persons consider satisfactory, but a variety of factors have contributed to this. These include: the nation-wide "depression" in higher education, sponsoring universities' funding priorities, on-campus residence requirements, local and regional economic problems, and others. The period ahead promises many opportunities for continued improvement of the Center's service to the Hanford Complex, the Tri-Cities, the state and the region. It is hoped this report will contribute to that improvement.

The Council wishes to thank the organizations and people who contributed their time and information to this study. A partial list of their names is placed at the end of this report in Appendices C and D. Numerous students and other interested citizens took part in the two public meetings, but a list of their names was not gathered.

APPENDICES

Appendix A:	Texts of HR 75-49 and SR 1975-130
Appendix B:	Complete Text of "Administrative Organization and Operating Agreement: The Joint Center for Graduate Study (1973)"
Appendix C:	Businesses, Postsecondary Institutions, and Agencies that have assisted in some way with this study
Appendix D:	Persons providing interviews or other information for this study

HOUSE FLOOR RESOLUTION NO. 75-49

HOUSE FLOOR RESOLUTION RELATING TO THE JOINT CENTER FOR GRADUATE STUDY

WHEREAS, the University of Washington, Washington State University, Oregon State University, and the federal Energy Research and Development Administration participate in the operation of the Joint Center for Graduate Study, which is located at Richland, Washington, and which has largely the purpose of meeting the unique educational needs on a graduate school level of employees of the Energy Research and Development Administration and of the highly technical industries attracted to the Tri-Cities area; and

WHEREAS, many citizens of the Tri-Cities area and past and present employees of the Joint Center for Graduate Study have expressed great concern over the continuous turnover of key administrators at the Center, which turnover they believe has hindered the Center's capacity to adequately serve the educational needs of the technical community of the Tri-Cities area and has been caused by intolerable administrative conditions;

NOW, THEREFORE, BE IT RESOLVED, by the House of Representatives, that the Council on Higher Education is requested to make a thorough examination of the manner in which the Joint Center for Graduate Study is administered and, in furtherance thereof, is also requested to conduct hearings in the Tri-Cities area and solicit the opinions of the past and present faculty, administrators and students of the Center and of other interested citizens; and

BE IT FURTHER RESOLVED, that by December 1, 1975 the Council on Higher Education shall report to the House Higher Education Committee its findings in respect to the manner in which the Center has been administered, together with its recommendations, if any, for changing such manner of administration.

SENATE FLOOR RESOLUTION NO. 1225-130

WHEREAS, The Joint Center for Graduate Studies in Richland, Washington, is operated by the University of Washington and Washington State University to provide upper-division and graduate level courses primarily for professional employees in the Richland area working toward postbaccalaureate degrees; and

WHEREAS, Oregon State University, as a third participating institution, sponsors certain graduate degree programs at the Center; and

WHEREAS, The applicability toward baccalaureate degrees of upper-division course work taken at the Center and the general availability of credit for courses offered by the Center are subjects of recurring concern to residents of Benton and Franklin Counties; and

WHEREAS, Questions exist as to the most effective use of the Center in terms both of local needs and of statewide concerns; and

WHEREAS, The administrative structure of the Center and the most effective division of responsibility between the local administration and the administrations of the participating institutions are subjects of current internal review.

NOW, THEREFORE, BE IT RESOLVED, That the Council for Post-secondary Education, with the cooperation of the participating institutions, is directed to examine the educational functions of the Center, including but not limited to, consideration of:

1) the local need for postsecondary education at the upper-division level

2) alternative means and mechanisms for meeting those educational needs

3) the resource implications of those alternatives

4) the impact of the Center's functions on other postsecondary institutions in the state

5) the impact of alternative administrative structures on the Center's

ability to fulfill its designated educational functions

6) the joint federal-state role in support of the Center's educational functions.

BE IT FURTHER RESOLVED, That the Council for Post-secondary Education is requested to report its findings and recommendations to the Senate Committee on Higher Education on or before November 1, 1975.

BE IT FORTHER RESOLVED, That a copy of this resolution be transmitted immediately upon adoption by the Secretary of the Senate to the House of Representatives and the Council for Post-secondary Education.

ADMINISTRATIVE ORGANIZATION

AND

OPERATING AGREEMENT

JOINT CENTER FOR GRADUATE STUDY

Richland, Washington

Revised June, 1973

ADMINISTRATIVE ORGANIZATION
Joint Center For Graduate Study
Richland, Washington

This agreement is between the UNIVERSITY OF WASHINGTON, Seattle, Washington, acting through its President and WASHINGTON STATE UNIVERSITY, Pullman, Washington, acting through its President. They hereby enter into an agreement for operating the Joint Center for Graduate Study in Richland, Washington. This agreement may be modified at any time by mutual agreement between the Presidents and Boards of Regents of the two universities.

Introduction and History

The Joint Center for Graduate Study located at Richland, Washington serves the cities of Kennewick, Pasco and Richland, Washington, and other parts of the State and region with respect to certain areas of graduate education. This educational facility is a result of the construction during World War II years of the Hanford Project by the United State Government. In 1946 the General Electric Company replaced the DuPont Company as the prime contractor. Shortly after the General Electric Company took over the operation of this large and complex facility, the school known as the General Electric School of Nuclear Engineering was created. At that time, 1946, the investment in facilities in this U.S. Atomic Energy Commission (AEC) project approximated one billion dollars and the number of employees approximated 10,000. Many of these employees were professional people holding degrees at the bachelor, master and doctorate levels in fields such as chemistry, physics, mathematics, and the various branches of engineering. Before establishing the General Electric School of Nuclear Engineering, the company obtained approvals from Oregon State University, the University of Idaho, the University of Washington, and Washington State University for the program. This recognition consisted of both approval of faculty for teaching of courses at Richland and approval of the courses offered. This educational program grew and was well received in Richland and on the campuses of the participating institutions.

In 1958, Mr. W. E. Johnson, Manager of the General Electric Company's operation at Richland, approached the University of Washington with a request that the four universities consider the administration of this educational facility. He felt it was inappropriate for the General Electric Company to be operating an educational institution. After many discussions between representatives of the various universities, they decided to accept this responsibility. In order to simplify and facilitate the transition it was determined that the basic AEC contract for the operation

of the school would be with the University of Washington and they thereby became the responsible fiscal agent for the operation of the school. In matters of academic policy, and in other facets of the school's operation, the four educational institutions participated on an equal basis through the Deans of their respective graduate schools. In 1960 the University of Idaho withdrew from the association of universities administering the Center.

Many changes have taken place within the last decade. The production of plutonium on a large scale is no longer necessary in the interest of national security. For this reason many of the plutonium producing reactors in the United States have been or are being shut down. The General Electric Company felt that it shoudl withdraw from the operation of the facility at Richland, and asked the AEC to be released of this responsibility. The General Electric Company recommended that the facility be subdivided into various components and each component be operated by a separate contractor. This transition has occurred during the past several years. Many new contractors are now present in the Richland complex. The major ones are: The Atlantic Richfield Hanford Company, Automation Industries, Inc., Battelle Memorial Institute, Combustion Engineering, Inc., Computer Sciences Corporation, Hanford Environmental Health Foundation, ITT Federal Support Services, Inc., J. A. Jones Construction Company, United Nuclear Industries, Inc., Washington Public Supply Power Systems and Westinghouse Hanford Company. The industrial base in the Tri-Cities areas has been vastly broadened and strengthened by the presence of these new companies. In 1969 the Center's name was changed to Joint Center for Graduate Study to represent the joint responsibilities of the universities operating the Center.

The facilities used by the General Electric School of Nuclear Engineering and originally by the Joint Center for Graduate Study consisted of a converted women's dormitory located in downtown Richland on a tract of land approximating six acres. It became apparent about six years ago that this facility was inadequate, and as a result the University of Washington purchased a tract of land approximating 85 acres about three miles north of the city of Richland, between George Washington Way and the Columbia River. This tract of land is suitably located with respect to the other major contractors. After acquiring this new piece of land for the activities of the Center, plans were made to construct a building. The building was financed by obtaining funds from three sources in approximately equal amounts. These three sources were local subscription by industries and contractors in the Richland area, money from the State of Washington through a referendum which was favorably voted on in Autumn, 1966, and a grant from the U.S. Office of Education. The total cost of the

building approximated one and one-half million dollars. The new building provided administrative offices, a 150 seat auditorium, classrooms, a conference room, laboratories, a library, offices for faculty, offices for research students, service areas, various shops, and other peripheral services. The building is housed on the southeast corner of the land and considerable space remains for additional buildings as the Center grows.

In July, 1969 the University of Washington and Washington State University entered into an Administrative Agreement signed by the Presidents of these two institutions. In April, 1970 a Task Force was appointed to study the operation of the Center and make recommendations. Their report was submitted in August, 1970. In April, 1971 the Presidents from the two State of Washington institutions issued a Position Paper which contained their recommendations for changes in the structure of the Center. This revised Administrative Agreement incorporates recommendations found in that Paper.

Role of the Joint Center for Graduate Study

The two universities administering the Joint Center for Graduate Study and Oregon State University which participates in the academic programs carefully considered the role of this facility in connection with a proposal made to the U.S. Office of Education in January, 1966 for funds for the construction of a new building. The three university administrations felt that the unique assemblage of facilities and scientific manpower which existed in the Tri-Cities area could be utilized to great advantage in graduate education and in academic research. They also felt that the opportunities for such cooperation would increase in years to come. On this basis, it was agreed that the role of the Center should be:

1. To offer university courses at the graduate level and also appropriate advanced undergraduate courses, especially those necessary in preparation for graduate study. Special attention would be given to nuclear science, engineering and related fields. Courses would continue to be taught in part by resident faculty members having primary employment with AEC contractors in the area, but it was expected that arrangements could be made to augment the resident faculty with a substantial number of regular-university-faculty visitors. Courses would ordinarily be offered largely during the regular working day in order that teaching, learning, research, and employment could be fully integrated to provide the highest quality of educational and professional experience.

2. To offer or to join with other interested organizations in offering opportunity for academic research with special emphasis on nuclear science, engineering and related fields and utilizing facilities available in government laboratories, in the laboratories of other cooperating organizations, or in facilities of the Center itself.
3. To offer or to join with other interest organizations in offering special lectures, seminars, institutes and short courses.
4. To develop technical library facilities in cooperation with other organizations.
5. To construct and operate its own academic laboratory facilities and/or to operate units of federally-owned laboratories for academic purposes when appropriate to the implementation of Item Two above.
6. To publicize and administer the AEC-sponsored Northwest College and University Association for Science (NORCUS), graduate fellowships, faculty research appointments, and post doctoral fellowship programs, as well as other programs of financial assistance which may become available to qualified graduate students and faculty members from any college or university.
7. To assist graduate students and faculty members coming to the Center, or one of the participating contractor laboratories, in making necessary practical arrangements with respect to communications, transportation and housing.
8. To serve whenever possible and desirable as liaison between the faculty and graduate students at the colleges and universities on the one hand and the personnel of the AEC and its Tri-City contractors on the other, in academic matters as well as in regard to opportunities which exist for graduate study and academic research at Richland.
9. To work closely with representatives of business, industry, research and other organizations in the area in the determination of various activities, programs, and plans for the Center which will best contribute to the public interest.

New Administrative Organization

Dean of the Joint Center for Graduate Study

A Dean will be appointed by the University of Washington and Washington State University to administer the programs at the Joint Center for Graduate Study. The Dean will be responsible to the Administrative Board and with the Board to the Presidents of the two State of Washington institutions.

Resident Director for the Joint Center for Graduate Study

The Resident Director shall be selected jointly by the University of Washington and Washington State University. The Director shall report to, shall be responsible to and shall be subject to the general supervision of the Dean of the Center. It shall be the Resident Director's responsibility, with the assistance of the staff, to carry out the policies and directives of the Administrative Board and through the Dean to administer the affairs of the Center within the budgetary framework established by the Board. The Resident Director shall be paid a salary determined by the Board. The Resident Director may be removed from the position only upon majority vote of the Administrative Board and with the concurrence of the Presidents of the two operating universities.

Academic Council

The Academic Council (advisory to the Dean of the Center in matters relating to academic procedure and policy) will be appointed by the Presidents of the University of Washington and Washington State University and will consist of the Deans of Arts and Sciences, Continuing Education, Engineering and the Graduate Schools at the participating institutions, including Oregon State University and any other Deans of Colleges at participating institutions who sponsor academic programs at the Joint Center for Graduate Study. Two Center faculty members shall also be members of the Council. The Resident Director fo the Center will be a member of the Council and will act as secretary to the Council. The Dean shall be an ex-officio member without vote. Chairmanship of the Council shall alternate between the University of Washington and Washington State University, and for the year July 1, 1973 to June 30, 1974 shall reside at Washington State University. The Dean shall serve

as permanent Vice Chairman.

Advisory Committee

An Advisory Committee consisting of representatives of the Tri-Cities area, plus other appropriate individuals will be appointed by the Presidents of the University of Washington and Washington State University. Members of this group will serve three-year terms on a staggered basis, with one-third of the group being appointed each year. The Advisory Committee will report to the Administrative Board through the Dean of the Center. The Dean of the Joint Center for Graduate Study will call meetings of the Advisory Committee and preside at these meetings as permanent Chairman. The Dean and Resident Director of the Center will be non-voting members of the Committee.

Administrative Board

The Administrative Board appointed by the Presidents of the University of Washington and Washington State University will consist of two Vice Presidents from the University of Washington, two Vice Presidents from Washington State University, the Dean of the Center (ex-officio without vote) and a staff member of the Richland operations office of the U.S. Atomic Energy Commission (ex-officio without vote) representing the Advisory Committee. The Chairmanship of the Board shall alternate between the two institutions and for the year July 1, 1973 to June 30, 1974 shall reside at the University of Washington. The Vice Chairmanship of the Administrative Board shall be on the alternate campus to the Chairmanship. The Board has the overall responsibility for the administration of the Center.

Academic Program and Coordination

Academic areas now established at the Joint Center for Graduate Study are Biology, Business Administration, Ceramic Engineering, Chemical Engineering, Chemistry, Education, Electrical Engineering, Librarianship, Mathematics, Mechanical Engineering, Metallurgical Engineering, Nuclear Engineering and Physics.

In each established program area, activities at the Center are coordinated by a Program Chairman who is nominated by the Resident Director of the Center and approved by the Dean and the Academic Council.

The sponsorship of individual program areas by individual departments at one of the participating institutions has been initiated. Sponsorship is determined after an annual review and recommendation by the Academic Council to the Dean and through him to the Administrative Board. In some selected areas full-time faculty will be appointed who will be in residence at Richland. The number of faculty

appointments and the timing of these appointments is, of course, dependent upon budgetary considerations.

Financial Affairs

It shall be the duty of the business and budget officers of the operating universities to arrange for the financial support of the Center to an extent agreed upon by negotiations prior to each biennial period. It shall further be their responsibility to designate procedures for the operation of the Center in financial matters.

The University of Washington shall be designated the sole fiscal agent for the Center and the title for physical properties of the Center will rest with the Board of Regents of the University of Washington. The biennial budget request shall be approved by the Administrative Board before being submitted to the two Presidents.

The Resident Director of the Center shall propose to the Dean a budget for the coming fiscal year shortly before the start of the fiscal year. After review, modification and approval it shall be the responsibility of the Dean to finalize the budget in agreement with representatives of both University Presidents.

/s/ Charles E. Odegaard

Charles E. Odegaard, President
University of Washington

June 28, 1973
Date

/s/ W. Glenn Terrell

W. Glenn Terrell, President
Washington State University

June 26, 1973
Date

RWM/LB:sc

BUSINESSES, POSTSECONDARY INSTITUTIONS, AND AGENCIES THAT HAVE ASSISTED IN SOME WAY WITH THIS STUDY

Businesses	Postsecondary Institutions	Agencies
Atlantic-Richfield Hanford Company	Central Washington State College	Argonne National Laboratories
Battelle-Northwest Laboratories	Columbia Basin College	Benton/Franklin Governmental Conference
Computer Sciences Corporation	Eastern Washington State College	Brookhaven National Laboratory
Exxon Nuclear Company, Inc.	Fort Wright College	Energy Research and Development Administration
Hanford Environmental Health Foundation	Gonzaga University	Idaho National Engineering Laboratory
J. A. Jones Construction Company	Joint Center for Graduate Study	Lawrence/Livermore Laboratory
United Nuclear Industries	Northwest College	Los Alamos Scientific Laboratory
Vitro Engineering	Pacific Lutheran University	Oakridge National Laboratory
Westinghouse Hanford Company	St. Martin's College	State Board for Community College Education
	Seattle Pacific College	State Office of Program Planning and Fiscal Management
	Seattle University	Washington Public Power Supply System
	The Evergreen State College	
	University of Puget Sound	
	University of Washington	
	Walla Walla College	
	Washington State University	
	Western Washington State College	
	Whitman College	
	Whitworth College	

PERSONS PROVIDING INTERVIEWS OR OTHER INFORMATION FOR THIS STUDY

Columbia Basin College

Dr. Fred Esvelt, President
Dr. Don Pratton, Dean of Instruction
Mr. Dale Gier, Supervisor of Evening Division
Dr. Miles King, Dean of Students
Mr. Ray Dunn, Director of Student Activities
Ms. Mollie Hungate, Instructor

Joint Center for Graduate Study

Dr. Wells Moulton, Dean
Dr. George Farwell, Administrative Board
Mr. James Ryan, Administrative Board
Dr. Allan H. Smith, Administrative Board
Dr. Wallis Beasley, Administrative Board
Dr. Bryan Valett, Program Director/NORCUS
Mr. Dale Fancher, Finance Manager
Dr. Bert Scheffler, Faculty
Dr. Henry Mika, Faculty
Dr. Lawrence Olsen, Faculty
Dr. Lino Niccoli, Faculty
Dr. Peter Shen, Faculty
Dr. William Martini, Faculty
Ms. Anita Wright, Conference Coordinator
Ms. Betty Ghirardo, Accountant
Ms. Margaret Badgley, Program Assistant for Admissions
Ms. Margie Yesberger, Administrative Assistant/NORCUS
Ms. Mary K. Williams, Secretary
Ms. Barbara White, Office Assistant
Ms. Linda Bell, Assistant to the Dean

Local Residents

Dr. Edward Alpen, Director, Battelle-Northwest Laboratories
Dr. Ray Dickeman, President, Exxon Nuclear Company, Inc.
Mr. Alex Fremling, Manager, Richland Office, Energy Research and Development Administration (ERDA)
Ms. Nell Fraser, ERDA
Mr. Wilfrid Johnson, Retired AEC Commissioner
Dr. Willard Matheson, Director, Donald W. Douglas Laboratories
Mr. Ronald Robinson, President, United Nuclear Industries, Inc.
Mr. Alexander Squire, President, Westinghouse Hanford Company
Dr. Leland Burger, JCGS faculty and Battelle-Northwest Laboratories
Dr. William McSpadden, JCGS faculty and Battelle-Northwest Laboratories
Dr. John Morrey, JCGS faculty and Battelle-Northwest Laboratories
Dr. George Garlick, former Resident Director of JCGS
Dr. Raymond Gold, former Resident Director of JCGS
Dr. Kermit Bengston, former Resident Director of JCGS
Dr. Wayne Cassatt, former Resident Director of JCGS
Mr. Robert Philip, President , Tri City Herald